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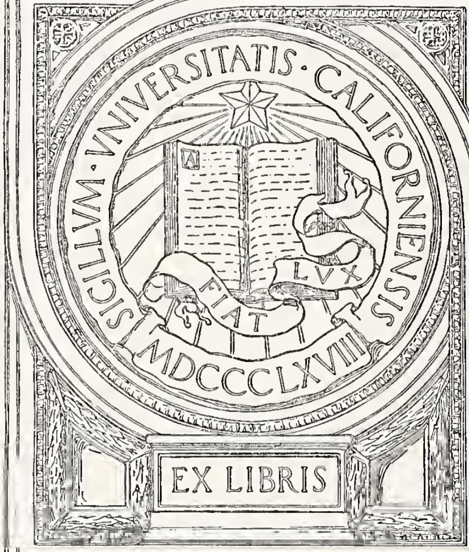

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Esophageal Motility Studies in the Clinical Diagnosis Of Esophageal Disease

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Characteristic patterns of disordered esophageal motility of interest to the clinician have been presented with emphasis on the usefulness of such studies in the diagnosis and treatment of clinical disorders.

Transducer pressure techniques have added greatly to our understanding of the pathophysiology underlying certain esophageal disorders.[1] The records produced are permanent, may be reviewed whenever desired, and give objective data which can be compared with later studies in evaluating the results of therapy. Because the technique is new it is the purpose of this paper briefly to outline the procedure and its clinical use.

Methods

Three polyethylene catheters, each with an internal diameter of approximately one and a half mm., are fastened together and sealed at the tips. A lateral hole in each at 5 cm. intervals permits simultaneous recording of pressure changes from multiple sites within the esophagus (Fig. 1). These catheters are water filled so that pressure changes developing within the esophagus may be transmitted to three Sanborn electromanometers and the changes then recorded on a four channel Sanborn direct writing recorder. Swallowing is signaled by recording the action potential of the accessory muscles of deglutition. A pneumographic belt around the chest indicates respiratory movements (Fig. 2).

The technique of recording esophageal motility is simple. The catheters are passed through the mouth into the stomach and withdrawn centimeter by centimeter while pressure changes are continuously recorded at all sites. The patients are studied in the resting stage, following a "dry" swallow, and

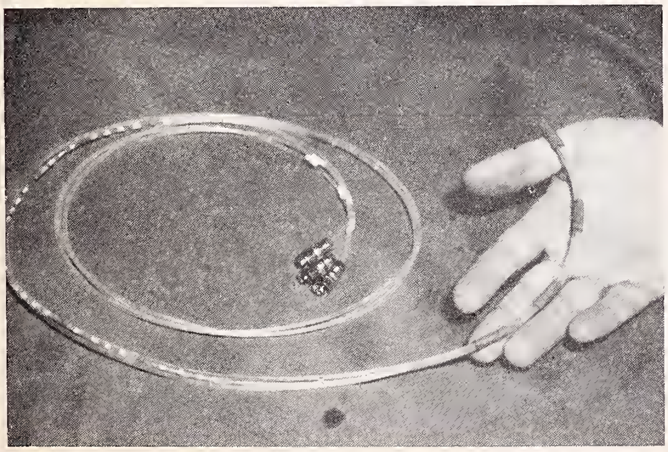


Figure I

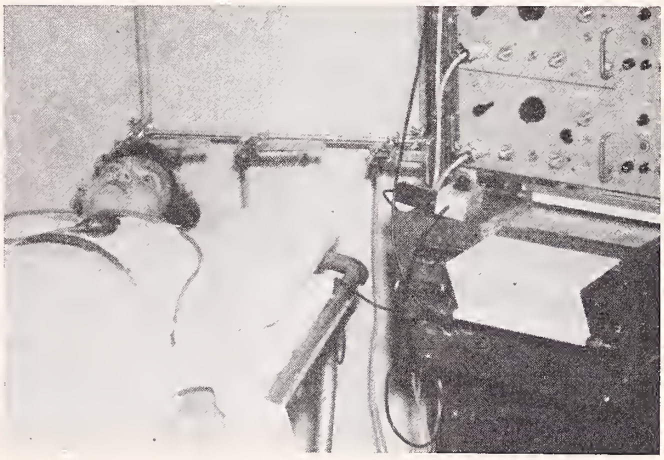


Figure II

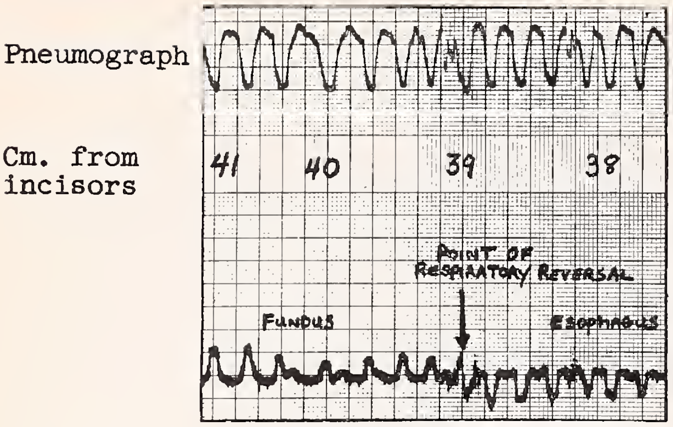


Figure III

This record indicates the point of respiratory reversal or "effective diaphragmatic hiatus" in a normal person. A single catheter is placed in the stomach and then slowly withdrawn at one centimeter intervals until the positive deflections characterizing the intraabdominal pressure response to inspiration reverse to the negative inspiratory pressures of the thorax.

following the ingestion of approximately 10 milliliters of water.

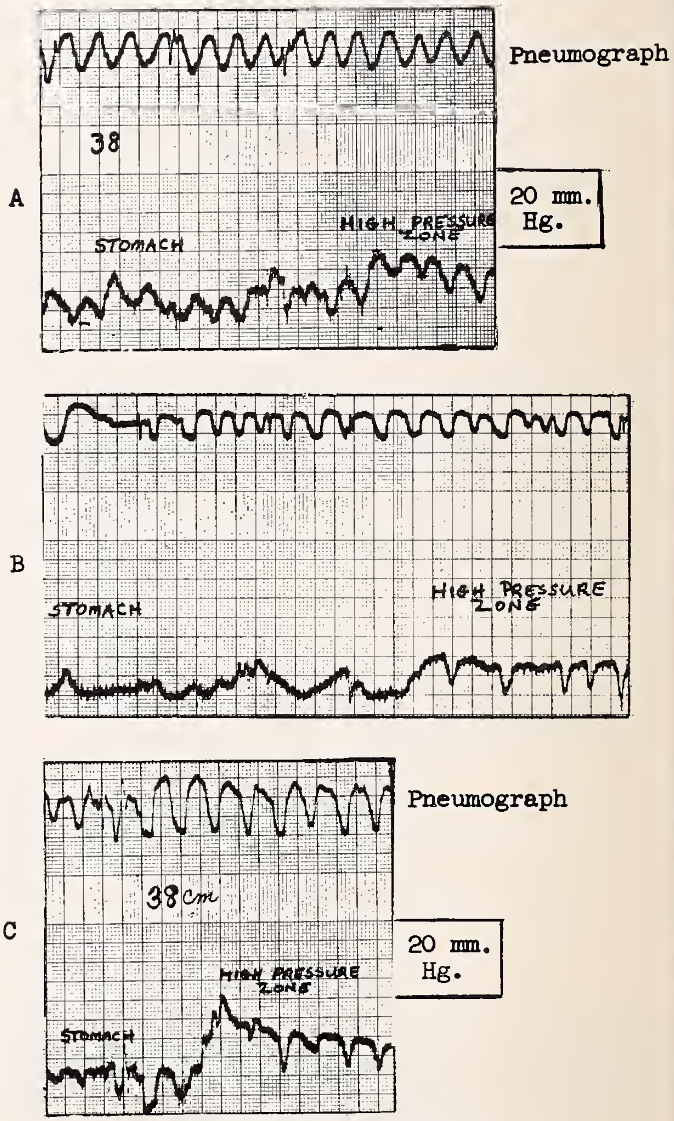
A common question asked is how one tells where the catheter is without the use of x-ray or fluoroscopy. When the tip of the catheter lies below the diaphragm, inspiration produces a positive pressure response which reflects increased intra-abdominal pressure. When the tip is above the diaphragm, the normal decrease in pressure in the thorax on inspiration produces a negative deflection. This reversal of pressure occurs at the diaphragm and is a convenient landmark (Fig. 3).

Normal

The resting pressure in the stomach normally is always higher than that in the esophagus. Obviously, gastric contents would readily flow from stomach to esophagus unless some barrier were present. In fact, a zone of high pressure is interposed between the fundus of the stomach and the esophagus; this lies from one centimeter below to two centimeters above the point of respiratory reversal (Fig. 4). This zone seems to behave as an intrinsic sphincter and has been identified with the inferior esophageal sphincter.[2,3] A sphincter must relax in order to allow passage. As expected, in response to swallowing, the pressure decreases in this zone to indicate relaxation of the sphincter. When the peristaltic wave passes, pressure in the lower esophagus rises beyond its resting state; this indicates that contraction has taken place (Fig. 5).

In the body of the esophagus pressure changes following deglutition are readily delineated by simultaneous recordings from the three catheters. As the esophagus contracts to produce the primary peristaltic wave, a forceful monphasic bell-shaped rise in pressure is recorded passing progressively in a wave-like fashion down the length of the esophagus[4] (Fig. 6). Interposed between the cervical esophagus and the pharynx is a band of elevated pressure, two to three centimeters in width which represents the upper esophageal sphincter; this is in large part composed of the cricopharyngeus muscle. This sphincteric mechanism serves as an effective barrier between the pharynx and the esophagus. Following deglutition, a decrease in

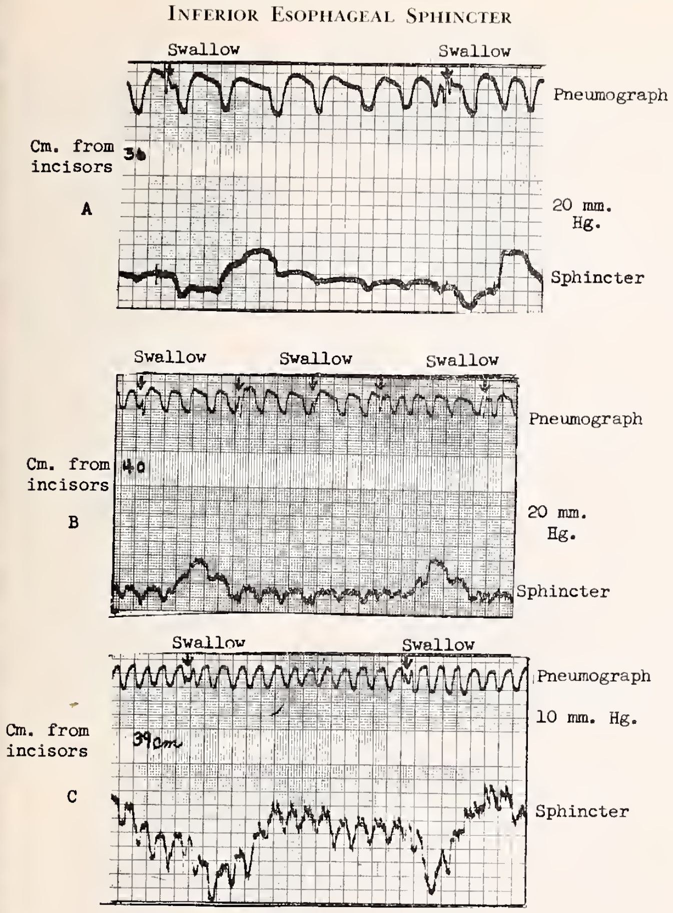
High Pressure Zone



Record Speed 2.5 mm/second

Figure IV

A, B, and C represent resting pressures from the inferior esophageal sphincter regions of a normal person, a patient with achalasia, and a patient with diffuse spasm respectively. In each record a single catheter is withdrawn at one centimeter intervals until the base pressure rises to produce the "high pressure zone" of the inferior esophageal sphincter. Note that in B the sphincter zone is of similar magnitude to the normal illustrating the absence of "spasm" in achalasia. In C the resting sphincteric pressure is significantly higher than normal and this indicates the hypertonicity often seen in diffuse spasm.


INFERIOR ESOPHAGEAL SPHINCTER

Record Speed 2.5 mm/second

FIGURE V

A, B, and C represent the response of the inferior esophageal sphincter region to swallowing in a normal person, a patient with achalasia, and a patient with diffuse spasm, respectively. In A, the swallow is immediately followed by a fall in pressure representing sphincter relaxation. This is followed by a rise in pressure indicating contraction. This normal response is seen after every swallow. In B, the relaxation phase of sphincter activity is conspicuously absent, and this is the characteristic abnormality in achalasia. There is a contraction phase, but note that it does not occur in response to every swallow and appears earlier than in the normal. In C, relaxation and contraction are present. Thus, in diffuse spasm the hypertonic sphincter functions normally.

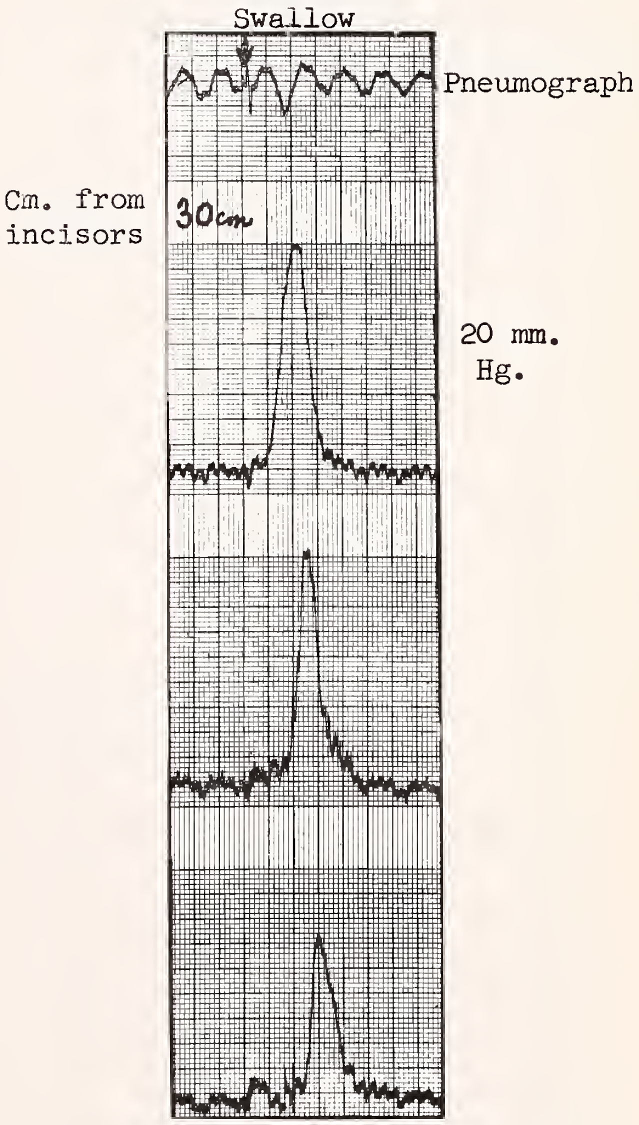
pressure which precedes pharyngeal contraction indicates relaxation of the sphincter[5] (Fig. 7).

Achalasia

In achalasia propulsive motility in the esophagus is absent and there is failure of the lower sphincter to relax. Thus, dysphagia is produced because a "weak" muscle cannot propel a bolus through this unrelaxed sphincter region. Pathologically, the disease is characterized by degeneration of Auerbach's plexuses which results in a postganglionic cholinergic denervation of the esophagus.

Motility studies have established several facts. The resting pressure generated by the inferior esophageal sphincter is within normal limits (Fig. 4). There is usually no hypertonicity or spasm of the inferior esophageal sphincter.[6] This fact often surprises the clinician who is accustomed to thinking of the disease as one of spasm. The important fact is, however, that in response to deglutition a decrease in pressure which indicates relaxation of the inferior esophageal sphincter is *not* noted (Fig. 5). The sphincter fails to relax in this disease.[6] The contraction phase often does occur and is seen as an increase of pressure of normal amplitude and duration although it tends to develop earlier than in normals.[6]

NORMAL

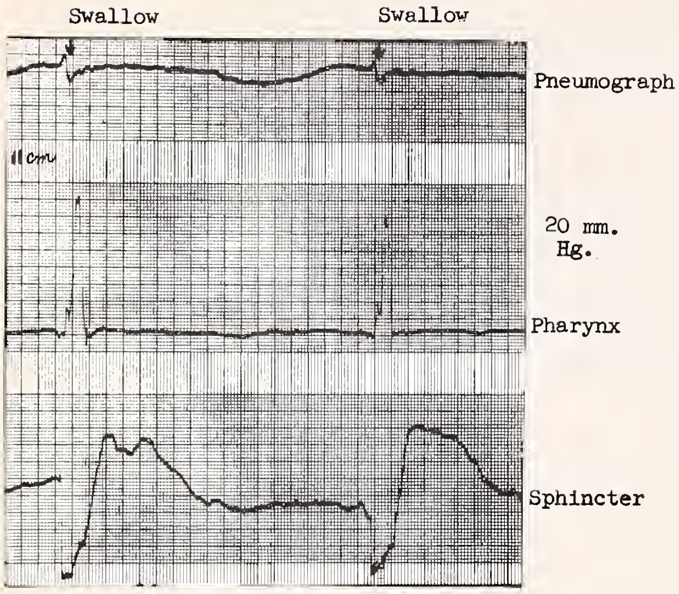


Record Speed 2.5 mm/second

FIGURE VI

This record indicates simultaneous pressures recorded from three levels in the body of the esophagus of a normal person. Note that the wave is monophasic, of short duration, and sweeps down the esophagus in a progressive fashion. This is a normal primary peristaltic wave initiated by the act of swallowing.

NORMAL UPPER ESOPHAGEAL SPHINCTER

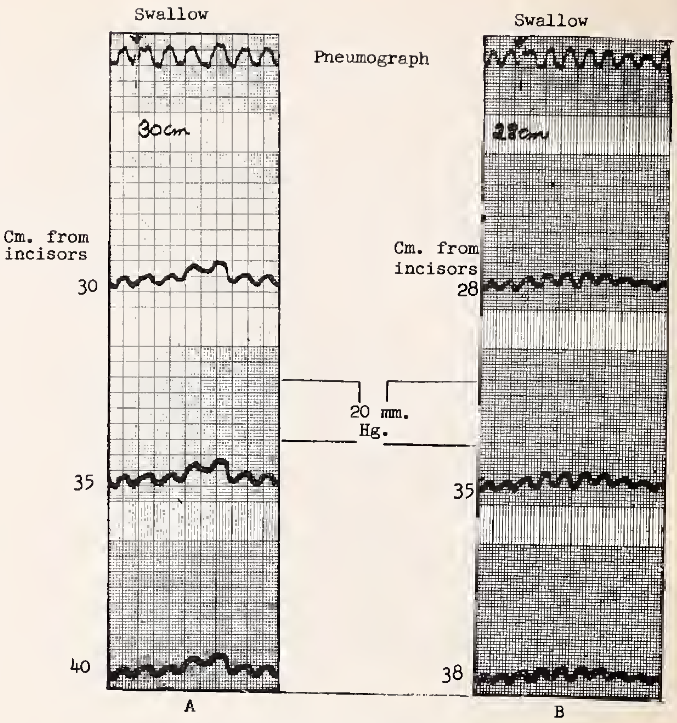


Record speed 10 mm/second

FIGURE VII

This record indicates simultaneous pressures recorded from the pharynx and upper sphincter region of a normal person. In response to each swallow a decrease in pressure occurs in the sphincter representing relaxation. Notice that this immediately precedes the pressure rise in the pharynx representing pharyngeal contraction. Following relaxation the pressure rises sharply in the sphincter indicating contraction.

ACHALASIA



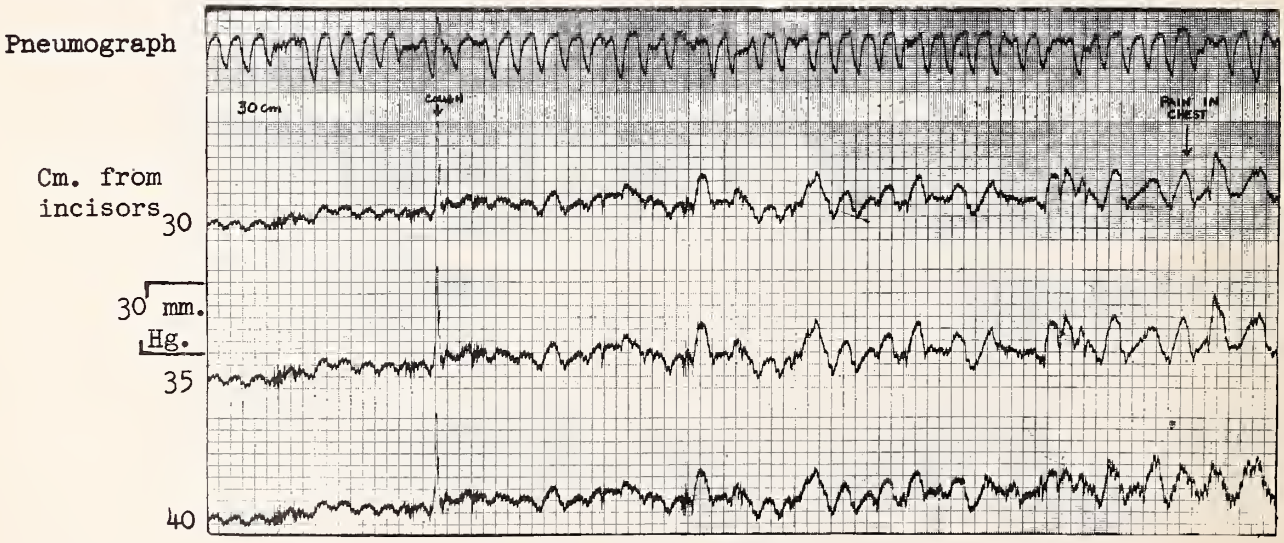
Record speed 2.5 mm/second

FIGURE VIII

A and B represent simultaneous pressures recorded from three levels in the body of the esophagus in two patients with achalasia. In record A there is a simultaneous, nonpropulsive wave of low pressure-following deglutition. In record B there is essentially no response to swallowing.

Esophageal motility studies strikingly demonstrate the failure of peristalsis in the body of the esophagus.[4] The resting pressure is increased. In some patients swallowing produces no change in pressure, but more often the normal progressive peristaltic wave is replaced by an ineffectual simultaneous contraction; this may occur spontaneously, without swallowing, is often repetitive, and is noted

POSITIVE MECHOLYL TEST



Record speed 2.5 mm/second

FIGURE IX

This graph represents a positive mecholyl test in a patient with achalasia. Eight milligrams of mecholyl was injected subcutaneously one minute prior to the portion of the recording represented above. The base pressure rises simultaneously in the three catheters and the frequency and forcefulness of spontaneous contractions increases markedly. Pain in the chest of a moderate degree prompted termination of the test with Atropine.

throughout the entire organ (Fig. 8). Such contractions are nonpropulsive.

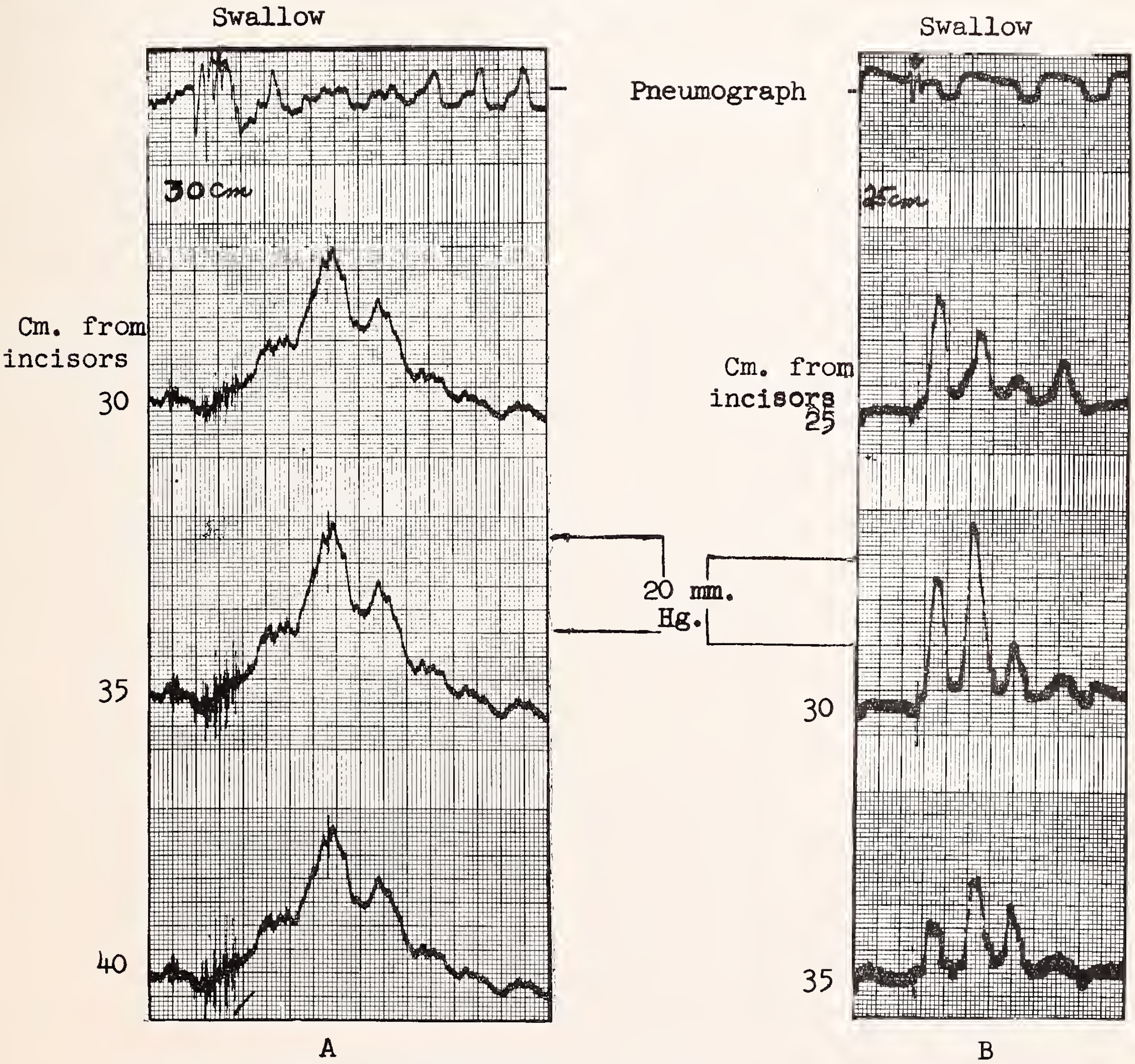
Denervated muscle, such as that in cardiospasm, will respond in a hypersensitive fashion to a neurohumeral agent; therefore, Kramer and Ingelfinger[7] suggested the use of mecholyl as a diagnostic aid. The subcutaneous injection of 5-10 mg. of mecholyl is followed within two minutes by a striking rise in the resting pressure in the esophagus and by vigorous spontaneous simultaneous contractions throughout the organ (Fig. 9). Severe, constricting, sub-xiphoid pain which may radiate to the neck, jaw, shoulders and arms, or even through to the back, often is associated with this rise in pressure. The normal esophagus does not respond in this fashion. It is our experience that the upper sphincter in cardiospasm is normal.

Diffuse Spasm

Diffuse spasm of the esophagus is not often recognized clinically and it is in the delineation of this syndrome that esophageal motility studies have been of prime clinical interest in this laboratory. This syndrome of disordered esophageal motility is characterized by intermittent dysphagia, substernal pain and pyrosis, and it differs from cardiospasm in several ways. (See Table 1)

Although an abnormal radiographic picture variously described as "curling," "tertiary contractions," "Cork-screw esophagus," may accompany

Diffuse Spasm



Record speed 2.5 mm/second

Figure X

A and B represent simultaneous pressures recorded from three levels in the body of the esophagus in two patients with diffuse spasm. In record A there is a simultaneous, markedly prolonged, nonpropulsive wave of considerable force in response to swallowing. In record B there is a simultaneous repetitive response to deglutition.

TABLE I

ACHALASIA	DIFFUSE SPASM
1. Primary	Often secondary (gall-bladder disease, peptic ulcer, hiatus hernia, etc.)
2. Dysphagia equally from liquids and solids	Dysphagia more from solids
3. Pain unusual	Pain prominent
4. Dilatation of esophagus	No dilatation
5. All swallows abnormal	Many swallows normal
6. Entire esophagus involved	Involvement of lower one-third to one-half
7. Failure of the lower sphincter to relax	Lower sphincter functions normally
8. Degeneration of Auerbach's plexus	No degeneration of Auerbach's plexus
9. Hypersensitivity to mecholyl	Mecholyl response often normal
10. Mild muscular hypertrophy	Marked muscular hypertrophy

this condition, it is seen manometrically in symptomatic patients without radiographic abnormality.[8] Esophageal motility studies reveal that the high pressure zone of the inferior esophageal sphincter is usually higher and wider than normal (Fig. 4). Therefore, hypertonicity is often present in contrast to the findings in achalasia. In response to deglution, the sphincter relaxes and contracts normally, so that it offers no obstruction to the passage of esophageal contents (Fig. 5). Resting pressure in the body of the esophagus is normal. Following deglutition a normal response is noted in the upper third of the esophagus, but in the lower regions the normal peristaltic wave is replaced by the premature onset of simultaneous, repetitive, spontaneous, forceful, prolonged contractions (Fig. 10); these are non-propulsive and produce a functional obstruction. Such an abnormal response is not usually a constant feature and many swallows may produce a normal response throughout the entire esophagus.[8] The upper sphincter functions normally.

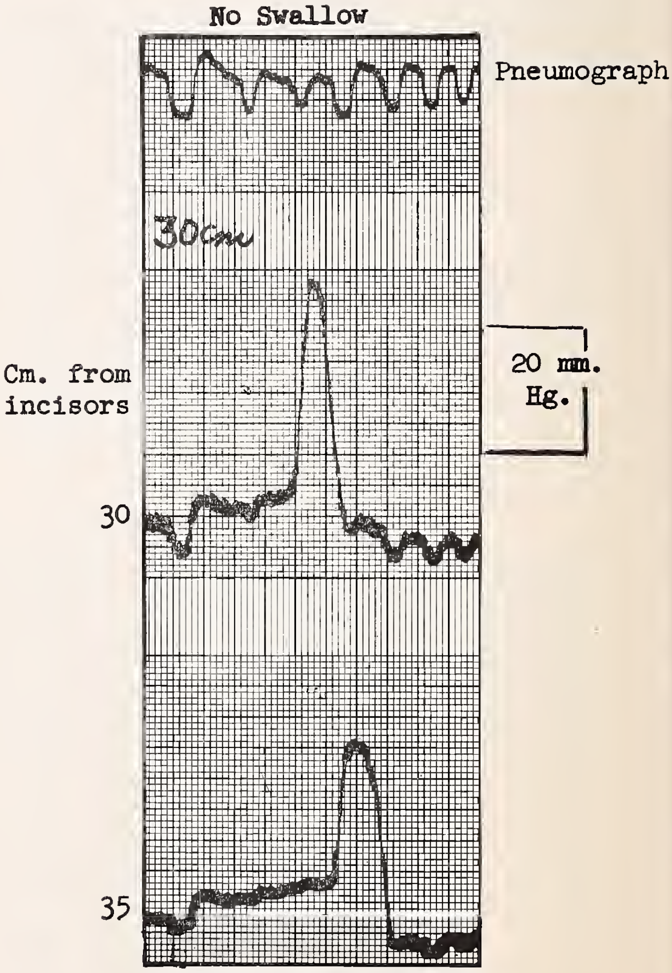
In this condition therefore, obstruction is not associated with malfunction of the inferior esophageal sphincter, but results from prolonged spastic contractions in the lower regions of the body of the esophagus which obliterate the normal propulsive peristaltic waves. In achalasia there is no spasm; the obstructive problem rests in the failure of the entire body of the esophagus to generate enough pressure to overcome the resistance offered by a normally tonic inferior sphincter which fails to relax in response to deglutition.

Thus, the syndrome of diffuse spasm is characterized by a variable disrhythmia involving the lower esophagus with simultaneous prolonged contractions which produce functional obstruction, resulting in dysphagia, anterior chest pain and pyrosis.

Comments

There are many clinical areas in which esophageal motility studies may be helpful. They are obviously essential in the diagnosis and treatment of dysphagia in which x-ray studies are normal. Indeed, evaluation of the patient with dysphagia, pyrosis, and anterior thoracic pain may be incomplete without such studies. For example, substernal pain resembling cardiac pain but with negative electrocardiograms and a negative exercise tolerance test may arise from esophageal spasm.[9] Recognition of this entity depends upon esophageal motility studies and carries obvious therapeutic and prognostic implications.

REFLUX



Record speed 2.5 mm/second

FIGURE XI

This record indicates simultaneous pressures recorded from two levels in the body of the esophagus of a patient with hiatus hernia and reflux esophagitis. Note that the wave is not preceded by a swallow. However, there is a long plateau-like rise in pressure due to reflux of gastric contents which sufficiently distends the esophagus to elicit a secondary peristaltic wave. This differs from the normal primary peristaltic wave only in its mode of initiation.

Esophageal motility studies may be used to evaluate patients with hiatus hernia. Reflux of gastric contents into the esophagus, the major factor responsible for symptoms, can be clearly demonstrated by this technique (Fig. 11). The tone of the inferior esophageal sphincter which is of importance in preventing reflux should be assessed in evaluating hiatus hernias.[10] Hiatus hernias are common, their incidence being as high as 30 per cent, and symptoms should not always be ascribed to their presence. The finding of a normally active sphincter in a patient who happens to have a hiatus hernia should lead one to search for another cause of symptoms such as gallbladder disease or peptic ulcer. In addition, inferior esophageal sphincter activity should be evaluated before and after surgical repair of a hiatus hernia; this may give prognostic information. The demonstration of a normally functioning sphincter should indicate that no further reflux will occur while the absence of such activity may suggest need to watch the patient for failure of surgery to correct the basic problem.

We have been particularly interested in defining the basic pathophysiologic abnormalities underlying heartburn in pregnancy. In this situation, x-ray studies are contraindicated. Preliminary esophageal motility studies seem to demonstrate that heartburn in pregnancy arises from at least two mechanisms, reflux in the esophagus and esophageal spasm. Confirmation of these facts by further studies will lead us much closer to an understanding of the mechanisms responsible for this common symptom.

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"If I am not for myself who will be for me
If I am only for myself what am I?
If not now, when?"

HILLEL

BROKEN NECKS

A STUDY OF THEIR PRESENT-DAY MORTALITY AND OTHER PERTINENT DATA

Great advances have been made during past 10 years in dealing with this particular problem . . .

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Introduction:

The tradition that an individual who is suffering from a broken neck has sustained a fatal injury is wide-spread not only among the lay public but also among the medical profession. Among other outgrowths of this belief is the shibboleth that any patient who "remains totally paralyzed for 24 hours after such an accident" is almost certain to die within a short time and, if he does not die, will never regain voluntary motion or be rehabilitable. Perhaps the pessimistic points of view that are manifested by the families of such victims by the expression that "the sooner he dies the better for him"; and by the doctors who inform the families and, what is worse, the patient, that there is nothing that medical skill or science can do for him; arise from such beliefs. These councils of despair however, do not take cognizance of the great advances that have been made over the past 10 to 12 years in dealing with this particular problem.

There are many reasons for this ignorance, but undoubtedly the most potent one is that since few individual doctors see more than 10 to 15 of such patients during their medical lifetime and then only one at a time, their personal experience cannot be one that leads them to believe otherwise. It is also a fact that what has been written about the modern care and prognosis of such injuries is buried in specialty journals and books. These writings are not ordinarily accessible to the general surgeon and, even if they were, there are a paucity of statistically significant articles that are sufficiently convincing to change the reader's pessimistic point of view.

It is the purpose of this paper to offer evidence that the present-day mortality among those patients with broken necks who survive to reach a doctor or hospital, is very much less than either the public or the medical profession believe and further, that it is well worth while for all concerned to remain optimistic about such a patient's life expectancy and the possibility of his rehabilitation.

Anatomy:

As a background it may be well to review and diagram the anatomy of the cervical spine and the relation this holds to the contained spinal cord and roots. The cervical spine consists of a tube, the lumen of which is triangular in shape. The anterior wall is formed by six blocks of bone set one upon another and topped off by a ring and swivel arrangement which allows for simultaneous support and rotation of the skull without disturbing the longitudinal stability of the supporting spine. The lateral and posterior walls are formed by arches which arise out of the sides of the bony blocks and which in their turn, provide at their bases certain plates of bone. The latter interlock in such a way as to limit the degree of antero-posterior slipping of the blocks one upon the other. These plates, or articular facets, are relatively thin and weak and form joints where any two approximate. They also combine to help make the borders of the lateral holes through which the spinal nerves emerge after leaving the cervical spinal cord. The latter is contained within the bony tube posterior to the blocks of bone or vertebral bodies and medial and anterior to the arches which are made up of the pedicals, the laminas and the spinous processes.

The strength and stability of the cervical spine, the appropriate arrangement of its individual bony parts and hence the protection afforded to its contents do not, as is commonly thought, depend significantly on the articular facets. These factors depend rather on the ligaments that bind the variuos bony units one to another and on the cervical muscles which maintain the bony architecture in proper relationship within the limits of elasticity of those ligaments.

It is not necessary to describe the ligaments in detail, many standard anatomies do that, but their importance can be emphasized by listing the chief ones. These are the ligamentum nuchae, the interspinous ligament, the interlaminal and interpeduncular ligaments, the capsular ligaments of the articular facets, the yellow ligaments or ligamenta flava, the posterior and anterior spinal ligaments—so-called because of their positional relationship to the vertebral bodies—and the intervertebral discs. The ligaments specifically associated with rotation of the skull and atlas are those that bind the occiput to the atlas and axis and those that connect the atlas and axis one to the other. Included among the latter are the transverse ligament that holds the odontoid process of the axis in place within the arch of the atlas and the check ligaments that prevent excessive rotation of the skull.

Except for the ligaments surrounding the odontoid and the ligamentum nuchae all are elastic.[1] This not only means that they elongate themselves by stretching but also that they shorten themselves by contracting, just as a slightly stretched rubberband will do. These attributes—lengthening and shortening—are presumably characteristics of normal live tissue and therefore are lost in the presence of disease or after death. Thus conclusions relative to the compression of the cord by an inward interlaminal protrusion of a ligamentum flavum in the presence of such a condition as spondylosis cervicalis or when based upon experiments with cadavers[2,3] cannot be accepted as necessarily being applicable either to the living or to the injured but otherwise normal individual.

That the bones and ligaments in the living are incapable of maintaining alone such stability of the cervical spine as is compatible with respiration and the maintenance of life, has been proven within the last few months by the brilliant work of Perry and Nickel[4] in patients whose neck muscles have been paralyzed by poliomyelitis. The importance of this can be readily recognized when it is remembered that there are 20 pairs of cervical muscles constantly active under normal conditions.[5] In addition and more recently Levernieux and Fossier[6] by controlled and measured neck traction of 200 patients with "cervico-occipitalgia" and with the aid of radiological checks before and after traction, have verified these stretch and contraction characteristics. They have shown that a spread of four cm. between two external and opposing traction points causes temporary stretching of the muscles and ligaments, and a similar spread of seven cm. results in temporary enlargement of the intervertebral space by 1.5 mm.

Ligaments also hold the spinal cord in place within its membranes inside the spinal canal. These are the two ligamenta denticulata—one on each side—attaching the cord to the inner side of the dura at each segment. The spinal nerves, sheathed as they are in their individual compartments of dura and arachnoid, also serve the same purpose by virtue of their attachment to the cord in front of and posterior to the dentate ligaments. The adherence of their dural sheathes to the rims of the individual intervertebral foramina accomplishes the same end.

Finally, as noted above,[4,5] the cervical muscles with their extensive attachments between the occiput and the bones of the spine and their even stronger and more solidifying distributions between the various units of the spine itself serve as the ultimate stabilizers of this mobile mass of bones and ligaments. They are also effective as a means of immobilization when parts of the bony structure are dislocated or damaged. They then prevent any resultant abnormal motion between displaced vertebras or fragments thereof and hence consequent damage to the cord. They accomplish this by going into strong spasm, thus fixing and limiting all motions of the head and neck and of the latter's constituent parts or fragments in relation to each other.

An understanding of these fundamental anatomical and structural data is essential to the initiation of a rational therapy and hence to an improved prognosis in all patients suffering from a broken neck.

Factors Influencing the Mortality Rate:

TREATMENT:

Treatment is concerned first, with saving the life of the injured patient and secondly in preventing further damage to the spine and its contained neural structures and in promoting his rehabilitation. It is only the first category that significantly influences the mortality rate.

The therapy of patients whose cord is injured as a part of a broken neck divides itself into three parts. The first or emergency treatment is concerned with saving the patient's life. In general this applies to the first two weeks after injury. The important procedures are: 1. The administration of whole blood for surgical shock; 2. The constant administration of oxygen; 3. The fixation of the paralyzed chest wall with an inelastic wide backed-adhesive plaster swathe applied with the lung in expiration; 4. Elimination of all food and fluids (including all water and ice) by mouth until such time as peristalsis is again audible; 5. The use of an intermittantly indwelling rectal tube; 6. Intermittant slow emptying of the urinary bladder through a small (No. 14-F) urethral catheter and thereafter the placement of the patient on tidal drainage; 7. Administration of electrolytes, fluids and protein solution intravenously; 8. Wangensteen suction when necessary to prevent acute dilatation of the stomach; and finally, 9. The simultaneous application of Crutchfield-type tongs (applied with the patient in bed if advisible and necessary) and the institution of traction with the neck in the neutral position until after roentgenography.

The second stage of therapy has to do with the prevention of increasing cord damage. This possibility is ascertained by determining whether or not a cerebro-spinal fluid block and therefore compression of the cord is present and needs relief by a decompressive laminectomy. Lumbar puncture with a Queckenstedt test, studies of the lumbar cerebrospinal fluid to determine its total protein content, x-rays of the cervical spine and a myelogram if necessary as well as an estimate of the progress of symptoms pointing to increasing interference with cord function govern therapy for this period.

The third category has to do with rehabilitation. This will necessitate an accurate knowledge of any cord pathology that is present and will frequently require a diagnostic laminectomy with intra-arachnoid electrical stimulation of the anterior surface of the cord. With the pathology demonstrated it is then time enough to consider the need for fusion or internal fixation,[7] dorsolumbar anterior rhizotomy,[8] rootlet rhizotomy,[9] or novocaine injection of peripheral nerves,[10] together with a host of other procedures that lead to eventual rehabilitation of the patient.

The first stage therapy is in the nature of an emergency and ends only with the re-establishment of an adequate respiratory exchange. The second stage therapy can be safely carried out only after the first stage therapy has accomplished its mission of re-establishing an adequate respiratory exchange. The third stage procedures are elective from the point of view of time.

OPERATION:

This should be a full bilateral laminectomy unless there are definite demonstrable contra-indications. The operation should be carried out with the patient on one side and with constant traction applied, through Crutchfield-type tongs, to the neck. The use of an intratracheal catheter is contraindicated. The anaesthetic should be local, supplemented by pentathol intravenously and by constant intra-nasal oxygen. The abdomen should not be permitted to carry any of the patient's weight during the operation. Electrical stimulation of the intra-arachnoid anterior surface of the cord providing the injury is below the fourth cervical segment, should always be carried out. If the cord is compressed the dura must be left open at the close of the laminectomy. It is preferable not to operate at all rather than to operate without opening the dura, viewing and electrically stimulating (below C4 segment) the entire area of damaged cord together with at least one normal segment above and one below the damaged part. The cord should never be split or incised. It may be needled for specific indications only. At least three and, if possible, more than three dentate ligament attachments to the dura should be cut on each side opposite the area of cord pathology.

SPONDYLOSIS CERVICALIS:

The presence of spondylosis cervicalis in a patient who has sustained a cervical spine injury will of itself increase the mortality rate three per cent.[11] Spondylosis cervicalis, although more common in individuals of 60 or over, may and does occur at any age.

The Prognostic Value of Total Voluntary Paralysis Present for the First 24 Hours after the Accident:

It has been "dogmatically" stated[12] that "If paralysis occurs immediately, and is complete for 24 hours following injury, it will be permanent; no form of treatment directed toward the spinal cord itself will aid in its amelioration. (This does not apply to lesions of the cauda equina.") My experience does not bear out this dogmatic statement. Because it is a council of despair which offers no hope to the patient, his family or his community and no vestige of encouragement to the doctor, it is essential that it be challenged. If, on the basis of sufficient exerience, it is found to be inaccurate, its falsity should be widely disseminated and every effort made to see that the true facts reach all members of the community and particularly all doctors.

In support of my belief that the statement is false I have analyzed the records of 357 of my 359 patients with broken necks from the point of view of the time of onset of paralysis, the totality of the paralysis and the degree of recovery attained by those patients who were actually totally paralyzed during the first 24 hours after their accidents. In order that there may be no misunderstanding I have defined this total paralysis of cervical cord injuries as a voluntary motor paralysis of all muscles of the trunk and legs, accompanied by a variable number of paralyzed arm muscles (depending on the level of involvement of the cervical cord), and usually associated with a total sensory paralysis of the trunk and legs as well as a functional paralysis of the bladder and bowel. Those patients have been considered as having been immediately paralyzed if the muscles of their trunks, legs or portions of their arms became motionless and useless at once after the accident, or if such a condition was discovered later on return to consciousness. Recovery from any such paralysis has been measured insofar as their trunk and legs go, by their ability to ambulate and insofar as their arms and hands go, by the amount of self-care they have acquired.

LIFE EXPECTANCY:

One hundred forty-five patients showed immediate total paralysis as described above for at least the first 24 hours after their accident. Two hundred and ten patients showed no immediate or any such paralysis as described above during the 24 hours immediately following the accident. In addition to these there were two patients on whom this information was not available. Thus only 41 per cent of this group suffered from immediate 24 hour paralysis.

It must be obvious that in estimating the prognostic and therapeutic significance of such paralysis, those patients that died so shortly after the accident as to preclude recovery from their immediate paralysis before death, as well as those in whom a transection of the cervical cord prevented any later recovery together with those with nothing but a radiculitis, should be eliminated. (Table 1)

TABLE I

IMMEDIATE PARALYSIS	1930-1947					1947-1958				
			DEAD		SUBTRACT			DEAD		SUBTRACT
			BEFORE	AFTER	FOR			BEFORE	AFTER	FOR
	TOTALS	LIVING	15 D	14 D	ANALYSIS	TOTALS	LIVING	15 D	14 D	ANALYSIS
Transections	51	4	39	8	51	23	16	3	4	23
Contusions	40	25	10	5	10	18	17	1	0	1
Compressions	6	3	3	0	3	7	5	2	0	2
Radiculitis	0	0	0	0	0	0	0	0	0	0
Cord Disease	0	0	0	0	0	0	0	0	0	0
Totals	97	32	52	13	64	48	38	6	4	26
Subtract	64	4	52	8	64	26	16	6	4	26
For Analysis	33	28	0	5	0	22	22	0	0	0
MORTALITY	TOTAL	DEAD	MORTALITY			TOTAL	DEAD	MORTALITY		
All Cases	97	65	67%			48	10	21%		
Selected Cases	33	5	15%			22	0	0%		

DELAYED PARALYSIS	1930-1947					1947-1958				
					SUBTRACT					SUBTRACT
			BEFORE	AFTER	FOR			BEFORE	AFTER	FOR
	TOTALS	LIVING	15 D	14 D	ANALYSIS	TOTALS	LIVING	15 D	14 D	ANALYSIS
Transections	5	0	5	0	0 5	19	17	1	1	19
Contusions	44	36	4	4	2 4	30	28	0	2	0
Compressions	12	11	0	1	0 0	41	40	0	1	0
Radiculitis	15	14	0	1	0 15	38	38	0	0	38
Cord Disease	1	1	0	0	0 1	5	5	0	0	5
Totals	77	62	9	6	2 25	133	128	1	4	62
Subtract	25	15	9	1	2 25	62	60	1	1	62
For Analysis	52	47	0	5	0 0	71	63	0	3	0
MORTALITY	TOTAL	DEAD	MORTALITY			TOTAL	DEAD	MORTALITY		
All Cases	77	15	19%			133	5	4%		
Selected Cases	52	5	10%			71	3	4%		

ALL CASES	1930-1947			1947-1958		
	TOTAL	DEAD	MORTALITY	TOTAL	DEAD	MORTALITY
All Cases	174	80	46%	181	15	8%
Selected Cases	58	5	9%	93	3	3%

1930-1958

TOTAL	LIVING	DEAD	MORTALITY
355	260	95	27%

In addition, as pointed out in subsequent sections of this paper, the influence of the cord pathology and the treatment rendered for it, is critical in relation to the outcome of the individual case. It is for these reasons that the data in Table 1 are divided not only in accordance with the pathological diagnoses but also in two chronological periods. In the first period the treatment was badly conceived and entirely inadequate. However during this time sufficient was learned about the progress of such injuries to permit the development of a more rational and effective therapy. The effect of this change is mirrored in the statistics of the second period.

Certain data having to do with the life expectancy of the entire series as well as those of the two separate groups should be emphasized. It will be noted that the mortality was 27 per cent for the entire group of 355 patients. With the patients divided according to the treatment received however, and with reference to all patients in each of the two series, those in the first group had a mortality of 46 per cent and those in the second of only eight per cent, regardless of the time of onset of the paralysis. Thus alterations in therapy alone reduced the death rate 36 per cent. This would seem to confirm the previous statement that therapeutic methods have a great influence on mortality regardless of any other factor.

If, from the same two groups, the patients that died within 24 hours of the receipt of their accident or who suffered from an uncomplicated radiculitis or intrinsic cord disease, are eliminated, the specific effect of immediate 24 hour total paralysis can be estimated. For the first group the mortality was lowered on this account from 46 to nine per cent and in the second from eight to three per cent.

It seems to be reasonable, therefore, to conclude from these and the other data in Table 1 that if intelligent and adequate therapy is provided, the presence of immediate 24 hour paralysis after a cervical injury increases a patient's chance of dying in the neighborhood of five per cent. This is a very different prognosis from the commonly held opinion that a broken neck is virtually always fatal whenever quadriplegia develops at once after the accident.

Table II

Ambulation

	IMMEDIATE	PARALYSIS		DELAYED	PARALYSIS
	NUMBER		PERCENT	NUMBER	PERCENT
All Cases	49		100	103	100
Normal	20	31	63	74	71
One Cane	11				
About the House	3				
Stands Only	7	13	27	17	16
Wheel Chair	6				
Bed	2		4	7	7

Table III

Self-Care

	IMMEDIATE	PARALYSIS		DELAYED	PARALYSIS
	NUMBER		PERCENT	NUMBER	PERCENT
All Cases	47		100	103	100
100%	24	36	77	82	80
90%	6				
80%	3				
75%	3				
50%	2	9	18	12	12
25%	5				
10%	2				
None	2		4	9	9

AMBULATION: (Table 2)

I have also analyzed my patients' records from the point of view of future rehabilitation in relation to immediate 24 hour total voluntary paralysis. As stated above the criteria used are the ability to ambulate and the amount of self-care acquired after the paralysis had developed. The latter is given in percentages which are estimated approximations.

From this series it is apparent from the study of 49 patients with immediate 24 hour paralysis caused by a broken neck, that 63 per cent of such cases as do not die within 14 days of their injury and do not have a transected cervical cord, eventually ambulate normally. Figures on ambulation at discharge for 103 patients in whom there was no immediate total 24 hour paralysis are also given in Table 2. A comparison with the similar percentages (63, 27 and four as compared with 71, 16 and seven per cents) is enlightening.

SELF CARE: (Table 3)

Information relative to their self-care ability was available from 47 patients with immediate paralysis. Seventy-seven per cent had sufficient self-care activities at the time of their discharge to dispense with all attendant and nursing care. Eighteen per cent were limited to a wheel-chair life and four per cent were bed-ridden. Similar data for the group of 103 cases who did not show immediate 24 hour paralysis is also given in Table 3. A comparison analagous to that made in the previous paragraph shows that three per cent more of these latter patients were ambulant; six per cent fewer were confined to wheel-chairs, and five per cent more were bed-ridden.

These figures for ambulation as well as for self-care would seem to effectively disprove the statement that "no form of treatment directed toward the spinal cord itself will aid in (the) amelioration (of immediate complete paralysis present for 24 hours after injury.")[21]

I submit that these data obligate all doctors who care for patients suffering from a broken neck to remain optimistic about the outcome and therefore to leave no therapeutic stone unturned in order to, at least attain and, if possible, better these mortality and rehabilitory results.

Other Data:

Certain other previously unmentioned data have become evident as the result of this analysis. It might be expected that a transection of the cervical cord would always produce an immediate paralysis. This did not prove to be so. Eighteen patients or 18 per cent of all transections about whom the information was available did *not* have immediate paralysis after the injury. For example, one patient struck his head diving into shallow water. He came to the surface, swam to shore, walked out of the water and a little way up the sand and then collapsed totally paralyzed. He remained quadriplegic for one month, bed-ridden without any self-care, at the end of which time he died of respiratory failure. In another patient with a transection, the paralysis did not develop for two days and in three others it was not until half an hour after the injury that the total paralysis set in. The first of these four last patients was discharged in a wheel-chair, unable to ambulate but with 90 per cent self-care activity at the end of nine months of hospitalization.

There were 134 contusions and 66 compressions in all. Seventy-one—58 or 43 per cent being contusions and 13 or 19 per cent being compressions—showed immediate total paralysis after the injury. It is reasonable to expect that immediate total paralysis for the first 24 hours after the accident would not be present in patients with a contusion or compression and, if it were present, would be lasting. Hence patients with contused or compressed cords would not and indeed could not be expected to exhibit total paralysis immediately after the accident for 24 hours or any other period of time. This did not prove to be so. The length of time that the paralysis remained total in the contused and compressed cases varied greatly however. For example, in 10 patients motion returned after ½ hour, 12 hours, 36 hours, one week, 10 days, three weeks, eight weeks, three months, 18 weeks and seven months. In another the paralysis became progressively worse for eight days at which time it was total.

The preceeding data verifies the fact that the time of onset of the paralysis in relation to the time the victim was injured, the amount of paralysis present during the first 24 hours after the injury and the length of time during which the paralysis remains total have no necessary connection with the final pathological changes produced in the cervical cord by a broken neck. These factors therefore cannot possibly have any but a minimum prognostic, diagnostic or therapeutic value.

The degree of ultimate recovery from a traumatic quadriplegia must depend first, upon the pathology that is present in the cord and secondly on the direct result of the enthusiasm, optimism, meticulousness and skill of the doctor who is responsible for and should provide treatment. The therapy that has produced the results quoted herewith is now and has been available to the medical profession for their use in the care of patients with broken necks since 1952.

Mortality Studies:

There are four kinds of broken necks. They are first—those in which only the bone and/or the ligaments are involved and neither the cervical spinal cord nor any of its roots are damaged, and secondly—those in which the roots are damaged. This latter may occur after trauma and in the presence of spondylosis cervicalis but without any demonstrable dissolution of continuity or displacement of the bones or tearing of the ligaments.[11] This has been verified radiologically, clinically and at autopsy.

The third group, while not composed of patients that have actually broken their necks, must be mentioned if only because it is so frequently and easily confused with the patients that fall into the second group. The former are the patients who have pain and interference with motions of the neck that mimic root symptoms, but which are actually traceable to damage to the cervical muscles from sudden jerking or strain. It is in this category that the mis-named[13] so-called whip-lash injuries fall.

Finally there are the most serious of all broken necks—those in which the spinal cord is injured. This damage is commonly associated with displacement alone, fracture alone, or displacement and fracture of the bones as well as some degree of tearing of one or more ligaments of the cervical spine. It may also occur after trauma and in the presence of a demonstrable spondylosis cervicalis without either fracture, displacement or ligamentous tear.[11] In the absence of such spondylosis cervicalis however, significant signs of post traumatic cervical cord injury, which may range from a transitory urinary bladder paralysis, or weakness or abnormal sensitivity of the trunk or legs, to a complete quadriplegia with marked impairment of respiratory exchange, are *ipso facto* indisputable evidence of damage to that structure. This holds true even without roentgenological evidence of a fracture or dislocation. In such latter circumstances it implies either fragmentation and ligamentous tear of the posterior wall of the canal or a transitory dislocation and/or a fracture with or without spontaneous relocation plus a ligamentous tear of the anterior wall. A protruded or extruded intervertebral disc may or may not accompany the latter.

The first group—that is—those patients in whom any fracture or dislocation at any level or in any part of the cervical spine that has neither involved the roots nor the spinal cord is present, do not—of themselves—have any mortality except such as accompanies any coincidental intercurrent disease or associated bodily injury. The true mortality of this group is therefore zero. This does not mean that such a condition—especially if it is a dislocation—is not potentially capable of causing cord damage and hence death if the patient is not properly handled. Such handling of cervical injuries requires moving by rolling rather than lifting. For transportation the head must be steadied on either side to prevent its rolling and emergency splinting of the neck with a Thomas-type collar made of a folded newspaper or turkish toweling must be used to prevent flexion or extension. The application of traction by means of Crutchfield-type tongs should replace this latter at the earliest possible moment as definitive treatment. Support or traction should be maintained with the neck neither flexed nor extended but in the neutral position until adequate roentgenographic examination has been made. Only this will determine the exact angle of pull that will permit alignment of the fractured or dislocated bones in such a way as to prevent future damage to the cord as well as to promote the prompt healing of any torn ligaments. Healing of the broken bone alone will not stabilize the spine until after the ligaments have united. Blind manual reduction of a dislocation is extremely dangerous and never justified. Fusion is necessary only to hasten rehabilitation and, in the first two weeks, carries with it unnecessary added risk to the patient. Unless extensive, it is, of itself, ineffective in the absence of ligamentous union.

The second group—that is the group that is suffering from bony injury and dislocation complicated by root but no cord injury—also has no inherent mortality just as in the first group. Such cases must be handled as described above however, if the mortality is also to be kept at zero.

The third group—like the two preceding—also has no inherent mortality. However, until the diagnosis is definitely established these patients should be treated just as carefully as those with actual bony damage or dislocation. After the diagnosis is established, however, over-treatment leads quickly to neurosis. Therapy therefore, should be appropriate for a muscular rather than for a bony injury.

It must be apparent that if mortality rates and hence life expectancy are to be figured from a series of patients that is a conglomerate of the first three plus the potentially fatal cord injuries of the fourth class, the figures will be weighted unfairly. This is also true if the cord-injury patients themselves are not subclassified as to their pathology. Only in this way can a proper understanding of the significance of the death rate as established for the entire cord-injury category, be reached.

Further, and in order to demonstrate the effect of proper and adequate therapy, I have split my broken neck cases into those treated for the years prior to 1947 and those treated during the 11 years through 1957. It was during the latter 12 years of the first period that the therapeutic methods that were to prove so successful during the second period, were developed and put into practice at the Boston City Hospital in the Department of Neurological Surgery.

There were 175 patients with broken necks seen in that department between the years 1930 and 1946 inclusive. Eighty died and 95 survived—a mortality of 46 per cent. This mortality was in accord with the accepted standards of that time. The detailed mortality in accordance with the cord pathology is given in Table 4. Two patients with stab wounds of the cord, one with a gunshot wound of the cervical spine and one with an intradural tumor were counted as contusions or compressions. One other patient had intrinsic cord disease. All five patients survived. The single death among the root injuries was from heart disease that proved fatal four years after the onset of his root systoms. Of the two patients listed in Table 5 as having died from miscellaneous causes, one died after seven years, of carcinoma of the rectum and the other after 11 months by suicide.

In contradistinction to this experience there were 175 patients with 176 cord or root injuries in the second group seen between 1946 and 1957. (Table 4) Of these patients 15 died—a mortality of 8.5 per cent. That this is a major improvement is self-evident and that this improvement was the result of more effective and better conceived therapy is inescapable. Nine patients with intra or extra-dural cervical spine tumors were listed as compressions. One patient had radiculitis caused by a chronically infected tooth, and one other suffered from a traumatic thrombosis of the anterior spinal artery which was counted as a contusion. Five others in whom trauma appeared to serve as a trigger mechanism which produced cord symptoms that turned out later to be traceable to intrinsic cord disease and two without a cord injury were not counted. All these 18 patients survived.

In summary—as the result of improved therapy which did not include fusion or internal fixation, the mortality of patients with a cervical cord transection has been reduced 74 per cent; with a contusion, 21 per cent; with a compression, 16 per cent; and with radiculitis, six per cent. The overall mortality has been reduced 37.5 per cent to 8.5 per cent.

The Cause of Death:

In estimating the prognosis of any potentially fatal accident it is essential to have a knowledge of the usual causes of death. Only with this information is it possible to properly adjust the therapy and hence modify the mortality favorably or otherwise.

As our experience with broken necks increased during the years from 1930 to 1947 I gained the impression that the majority of the deaths in patients with cervical cord injuries occurred in the days immediately succeeding receipt of the injury. This included, of course, only those patients that survived the accident long enough to reach the hospital alive. Studies were therefore undertaken during the middle and latter part of this period in the hope that methods could be developed to counteract these early fatalities. Results obtained in the patients seen from about 1947 on demonstrate that a considerable measure of success was attained.

The following data present, first—the situation as it was up to 1947 and secondly the situation as it has existed and now exists or should exist at the present time. There were 80 deaths among the first 175 patients—a mortality of 46 per cent as noted above. Fifty-nine occurred within the first two weeks after injury, and 52 within the first seven days. Thirty-three occurred in the first two days and 21 in the first 24 hours. Forty of the 59 deaths occurring in the first two weeks, were caused by respiratory failure because of increasingly inadequate respiratory exchange (Table 5). The one patient that died following the emptying of a distended urinary bladder by uninterrupted drainage through a large urethral catheter did so 2½ hours after the drainage was started. If the 12 patients with pulmonary embolism and the two other non-treatable patients (those with surgical shock and multiple injuries) are omitted, it is apparent that of the 64 patients left, 66 per cent or two-thirds died as the result of impairment of their respiratory function.

TABLE IV

MORTALITY STATISTICS

	1930-1947				1947-1958			
	LIVING	DEAD	TOTAL AND MORTALITY		LIVING	DEAD	TOTAL AND MORTALITY	
All Cases	95	80	175	46%	161	15	176	8.5%
Transections	4	52	56	95%	33	9	42	21%
Contusions	63	23	86	27%	45	3	48	6%
Compressions	14	4	18	22%	45	3	48	6%
Radiculitis	14	1	15	6%	38	0	38	0%

In contradistinction to these figures there were 15 deaths among 176 cases during the second period—a mortality of 8.5 per cent. Six patients died within the first five days after injury; four from respiratory inadequacy, one from pulmonary embolism and one from surgical shock. (Table 5) The necrosis of the spinal cord was associated with phlebitis of one arm following constant use of an indwelling polyethelene tube. This patient died 15 days after the accident. If the two patients with pulmonary embolism; the one with surgical shock; the three with exsanguination and the two with

TABLE V

CAUSE OF DEATH

CAUSE OF DEATH	RESPIRATORY FAILURE	HYPERTHERMIA	PULMONARY EMBOLISM	SURGICAL SHOCK	OPERATIVE	MULTIPLE INJURIES	BLADDER DRAINAGE	VASCULAR COLLAPSE	GASTRO-INTESTINAL TRACT EXSANGUINATION	BRONCHOPNEUMONIA	INHALATION PNEUMONIA	SEPSIS	MENENGITIS	HEART DISEASE	OLD AGE	NECROSIS OF SPINAL CORD	MISCELLANEOUS	CAUSE NOT KNOWN	TOTAL CASES	TOTAL DEATHS	MORTALITY PERCENTAGES
1930-1947																					
All Patients	42	3	12	1	1	1	1	2	0	1	0	3	2	2	3	0	2	2	175	78	45
Under 15 Days	40	3	10	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	59	59	34
Over 14 Days	2	0	2	0	0	0	0	0	0	1	0	3	2	2	3	0	2	2	19	19	11
1947-1958																					
All Patients	4	1	2	1	0	0	0	0	3	0	2	0	0	1	0	1	0	0	176	15	8.5
Under 15 Days	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	3
Over 14 Days	0	1	1	0	0	0	0	0	3	0	2	0	0	1	0	1	0	0	9	9	5
1930-1958																					
Totals	46	4	14	2	1	1	1	2	3	1	2	3	2	3	3	1	2	2	351	93	26

inhalation pneumonia are eliminated, it is apparent that of the seven fatalities left, four died of respiratory inadequacy. This is also 66 per cent or two-thirds of the deaths.

The above information taken in conjunction with the fact that the mortality rate among the patients that died during the first two weeks after injury dropped 31 per cent from 34 per cent in the 1930-1947 group to three per cent in the 1947-1958 group emphasizes that, despite the overall reduction of 37.5 per cent in the death rate, if the lives of patients with broken necks are to be saved, proper treatment must be instituted at once, and certainly within the first week. Moreover it must be directed toward maintaining the respiratory exchange at as nearly a normal level as possible.

Summary:

A study of the mortality figures and other pertinent data relative to patients with broken necks is presented. It is based on an analysis of 357 cases of injury to the cervical spine, cord and roots which were seen in the Neurosurgical Department of the Boston City Hospital in the 28 years from 1930 to 1958.

Conclusions:

The most important factors in maintaining the stability of the cervical spine and thus protecting its contents from injury are the various vertebral ligaments and the heavy cervical muscles. The articular facets are of relatively little importance.

Return of cervical spinal stability lost as the result of injury depends primarily on the return of normal tone to the cervical muscles and the union after injury of any ligaments that may have been torn. Relocation of dislocated bones and the repair of fractures *per se* (if not fragmented) serve only to decrease or prevent cord or root damage and, in the absence of ligamentous union, do little if anything toward restabilization of a damaged cervical spine.

The kind and meticulousness of treatment that is provided for patients with those broken necks that include cervical cord injuries has an important bearing on the mortality figures.

The presence of spondylosis cervicalis increases the mortality rate in the neighborhood of three per cent.

The presence of total voluntary paralysis which follows a cervical spine or cord injury immediately, and which lasts during the first 24 hour period has only a minimal prognostic, diagnostic or therapeutic significance.

Broken necks are of four kinds:—those involving the bone and ligaments only; those involving the cervical roots as well as the bones and ligaments; those involving the cervical muscles with possible root inclusion and finally those involving the cervical cord as well as the bones and ligaments.

The mortality of each of the first three groups, unless changed by associated injury, intercurrent or concomitant disease, is zero.

The mortality of the last or cord-injury group is, or should be today, 8.5 per cent. This is a reduction of 37.5 per cent from the accepted mortality of 10 years ago. It should serve as a minimal standard of accomplishment for all, including patients, communities and especially doctors concerned in the care of these potentially serious invalids.

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A CASE OF CONGENITAL HEMOLYTIC ANEMIA WITH HYPERSPLENISM—

— *Remission of 24 years following splenectomy and recurrence due to an accessory spleen visualized by thoratrast*

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One of the reasons for failure of splenectomy to cure the hypersplenic syndromes is due to accessory spleens left behind at the original operation.[1] Thorium Dioxide for the purpose of visualizing the liver and spleen was first used in 1929 by Radt[2] and Oka[3] in Germany. Study was later taken up in this country by Yater and Otell[4] and Ericksen and Rigler.[5] The method was later used in the diagnosis of hematological disorders due to accessory spleens[6,7,8,9] with good results. The following is a case report of the visualization of an accessory spleen with Thoratrast, in a patient with congenital hemolytic anemia, 24 years after the removal of the major spleen.

On May 4, 1933 a 21 year old Italian male who had complained of progressive weakness for three weeks was admitted to the Hospital of St. Raphael. Ten days prior to admission he developed dull vague abdominal pain and a throbbing headache associated with constant vomiting.

Physical Examination revealed a well developed, well nourished, male in no distress, with a Temperature of 99.9°F, Pulse of 88/min., Respirations of 22/min., and a Blood Pressure of 130/70.

A "diffuse dermatitis" was noted as was a hard, firm, movable mass that moved with respiration in the left upper quadrant. The only laboratory data available at that admission was a hemoglobin of 60 per cent, a white blood count of 10,200 per cubic millimeter with 73 per cent polymorphonuclear leukocytes and 27 per cent lymphocytes. The red blood count was 3,900,000 per cubic millimeter. The Kolmer was negative.

A splenectomy was performed and the pathology report was as follows:

> "Spleen weighing 820 grams. The organ is rather doughy in consistency and in section has a very deep red color. The pulp is increased in amount and the lymphoid elements are obscured. The fibrous stroma is apparently increased. Microscopic diagnosis: Marked congestion with hemosiderosis, dilatation of the sinuses, sclerosis of vessels and phagocytosis of red cells."

The patient was discharged on June 11, 1933 after an uneventful hospital stay.

In 1948 the patient was seen in the dispensary of another hospital by one of us (T.S.E.). At this time the following was noted: A moderate degree of icterus with muddy sclerae, a hemoglobin of 10 grams per cent, a red blood count of 3.2 million per cubic millimeter and a W.B.C. of 16,000 per cubic millimeter. The reticulocyte count was 3.6 per cent. Spherocytes were noted in the peripheral blood. At that time he reported that he had been well from the time of splenectomy until two months prior to this visit, when he complained of abdominal pain and weakness.

Because of an indirect van-den Berg of 3.4 mgms per cent and a red cell fragility which began at 0.58 per cent saline and was completed at 0.36 per cent saline, he was advised to be studied under hospital conditions since hypersplenism secondary to an accessory spleen was suspected. He refused all treatment and was not seen again until his second Hospital of St. Raphael admission on May 22, 1957.

The patient had apparently remained well until five weeks prior to admission when he noted anorexia, fatigue and watery stools. One week prior to admission he had noted that his sclerae were yellow. In the preceding year he had noted dark colored urine, bleeding gums and dyspnea on slight exertion.

Physical examination revealed a well developed, well nourished, white male in no distress with a strikingly dark colored skin. The blood pressure was 150/70 mm Hg., the pulse 76/min. Respirations and temperature were normal. The sclerae were jaundiced. There was a grade two systolic murmur heard over all the precordium. The liver was palpated three finger breadths below the right costal margin but was not tender; it was smooth and the edges were rounded. A scar was noted in the left upper quadrant of the abdomen. There was two plus pitting edema of both legs and marked clubbing of all digits.

The red blood count was 4.17 million per cubic millimeter, the W.B.C. was 16,850 per cubic millimeter, the Hgb. 11.8 grams per cent and the hematocrit 36 per cent. There were 52 per cent segmented polymorphonuclear leukocytes, five per cent band forms, 37 per cent lymphocytes, four per cent monocytes and two per cent eosinophiles. Frequent spherocytes were noted on smear. The reticulocyte count was one per cent and the platelet count, 172,000 per cubic millimeter.

The prothrombin time was 25 seconds (39 per cent). The total proteins were 7.4 grams per cent, with an albumin of 1.4 grams per cent and a globulin of 6.0 grams per cent. The direct van den Berg was 7.4 mgms. per cent, with a total of 9.2 mgms. per cent. The cephalin flocculation (24 hours) was four plus. The thymol flocculation (24 hours) was one plus. The thymol turbidity, nine units. The urine for bile was positive.

The bone marrow showed erythroid hyperplasia consistent with peripheral blood loss or destruction.

X-Rays of the chest showed a poorly defined reticular infiltration throughout the lung fields. A flat film of the abdomen revealed several calcified faceted gallstones in the right upper quadrant.

The patient was started on intravenous Mephaton for three days with no response in the prothrombin time.

Further workup was refused by the patient and he left the hospital but agreed to be followed in the out-patient department.

Third Hospital Admission: Nov. 2, 1957

During the first months after discharge there was no change in his condition but one month prior to admission an episode of epistaxis was successfully treated by nasal packing and vitamin K. One day prior to admission the first of a series of three 25cc. injections of Thoratrast was given intravenously in an effort to demonstrate an accessory spleen.

Admission physical examination was essentially as before.

The hemoglobin was 10.8 grams per cent. The hematocrit was 36 per cent. The white-cell count was 13,500 per cubic millimeter with a differential count of 54 per cent segmented polymorphonuclear leukocytes, 15 per cent band forms, 20 per cent lymphocytes, three per cent monocytes, and eight per cent eosinophiles. Numerous spherocytes were again noted. The reticulocyte count was 4.6 per cent. The red cell fragility was 0.63 per cent saline initially and 0.44 per cent saline complete. The platelet count was 186,160, per cubic millimeter.

The fasting blood sugar was 103 mgms. per cent, and the non protein nitrogen 23 mgms. per cent. Urinalysis was within normal limits with a specific gravity of 1.025. The direct bilirubin was 2.7 mgms. per cent and the total was 4.8 mgms. per cent. Total proteins were 7.8 grams per cent with an albumin of 2.6 grams per cent and a globulin of 5.2 grams per cent. Serum electrophoresis showed a decreased albumin and the gamma globulin was increased. Serum electrolytes were normal. The Coombs test was negative.

The alkaline phosphatase was 7.9 B.U., the thymol turbidity 19 units, and the thymol flocculation one plus. The Prothrombin time was 43 seconds, 18.3 per cent. Total cholesterol was 250

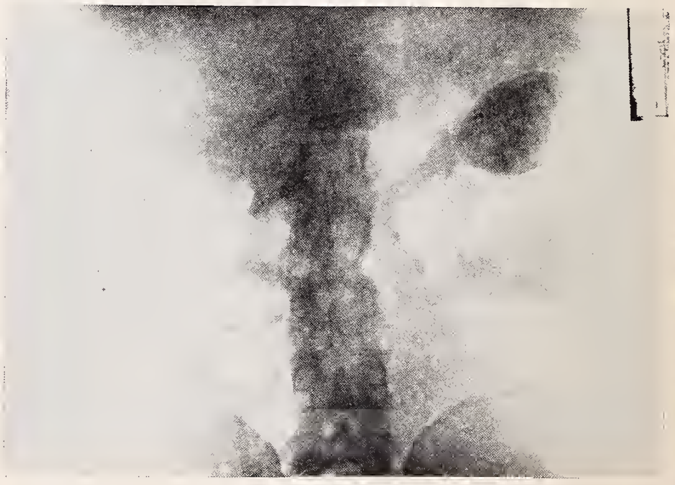

FIGURE I

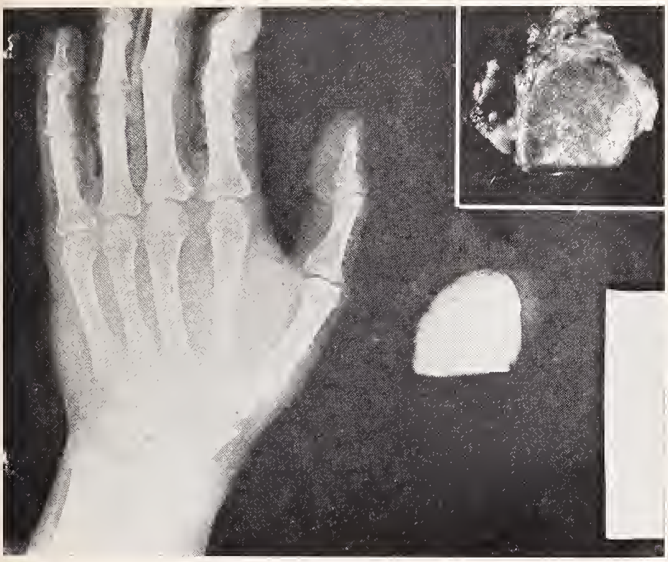

Figure II

Table I
Serum Bilirubin

	RETIC. (%)	HGB. (GRAMS)	HCT. (%)	(MGMS. %) DIRECT	TOTAL	R.C. INT.	FRAG. COMPT.
*J.M. (son)	12.2	13.0	43	2.0	6.0	0.48	0.36
J.M. (son)	2.3	14.9	52	0.5	1.0	0.48	0.27
G.M. (neph.)	1.8	13.7	47	0.2	0.6	0.46	0.30
R.M. (neph.)	2.4	13.5	47	0.4	3.4	0.46	0.30
J.R. (neph.)	1.4	14.8	50	0.4	1.0	0.48	0.28
A.M. (neph.)	1.3	14.8	49	0.2	0.6	0.46	0.30
A.M. (neph.)	1.6	13.3	45	0.5	1.0	0.44	0.28
M.M. (niece)	0.3	9.3	37	0.3	1.2	0.46	0.32
B.M. (niece)	1.6	12.0	45	0.2	1.4	0.46	0.32
G.M. (brother)	2.2	13.6	49	0.6	1.2	0.46	0.30
F.M. (brother)	1.8	14.4	47	0.2	0.6	0.46	0.28

* Hgb. electrophoresis—Hgb. A

mgms. per cent, with an esterified cholesterol of 114 mgms. per cent. The Lee-White clotting time was within normal limits. Three stools for occult blood were each three plus. Serum iron was 172 gamma per cent, (normal 70-150 gamma per cent). The urine was positive for bile and the urine urobilinogen was positive in 1/160 dilution.

On November 4, an additional 25 cc. of Thoratrast was injected intravenously and on the following day after a repeat injection of 25 cc. of Thoratrast a rounded opacification in the left upper quadrant was noted by flat plate. The distribution in the liver was patchy. (Fig. 1)

On November 11 the removal of an accessory spleen was performed.

The accessory spleen weighed 65 grams. It was covered by a thick capsule and fat tissue. On section it was deeply red and contained multiple grayish spots. It was firmer than normal and the red pulp was increased (Fig. 2).

Microscopic section of the spleen showed intense phagocytosis of red cells. A lymph node also showed phagocytosis of red cells. A biopsy of the liver showed portal cirrhosis.

Three days post-operative the red cell fragility was: Beginning hemolysis at 0.54 per cent saline and completed at 0.28 saline.

The hemoglobin remained at eight grams per cent. There was considerable icteric drainage from the wound. The patient began to run a febrile course with marked tachycardia. He showed a continuous down hill course with ascites, paralytic ileus and electrolyte imbalance complicating the picture. He died on the 15th post operative day. Serial reticulocyte counts taken over this period every other day were, 7.6 per cent, 14.0 per cent, 10.0 per cent, 7.9 per cent, 4.9 per cent, and 8.8 per cent.

Autopsy revealed hepatic cirrhosis, ascites, generalized icterus and hemosiderosis.

Shortly thereafter various members of the family were studies (Fig. 3). One son, Joseph was noted to have scleral icterus and a palpable spleen extending approximately four finger breadths below the left costal margin. His reticulocyte count was 12.2 per cent with a total serum bilirubin of 6.0 mgms. per cent and a direct bilirubin of 2.0 mgms. per cent. The red cell fragility was within normal limits. Another son had a reticulocyte count of 2.2 per cent. A brother also showed a slightly elevated reticulocyte count. One nephew showed a reticulocyte count of 2.4 per cent and a total bilirubin of 3-5 mgms. per cent.

Summary

1. A case of Congenital Hemolytic Anemia is presented in a patient whose accessory spleen was visualized with Thoratrast 24 years after the removal of the major spleen.
2. The pathological picture of the major spleen removed in 1933 was compatible with Congenital Hemolytic Anemia.
3. Laboratory findings were consistent with congenital hemolytic anemia showing; reticulocytosis, spherocytosis, increased osmotic fragility, and increased indirect bilirubin.

4. Evidence of Congenital Hemolytic Anemia was found in one son and suggestive evidence in certain other members of the family group.

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"We must always bear in mind our own fallibility in foretelling the future. Prognosis is after all merely an expression of opinions which may prove to be wrong. For that reason alone we are always justified in adopting an optimistic rather than a pessimistic attitude. This is especially important in dealing with the patient himself, for hopefulness is a psychotherapeutic measure the value of which is considerable. Even when the prognosis appears hopeless many things have to be taken into account in deciding how much to tell the patient. Patients rarely ask whether they are going to die. The great majority believe they will get better, and a bad prognosis is bound to have an unfavorable effect on the course of the illness."

CRIGHTON BRAMWELL

THE ANATOMY OF ANXIETY

" . . . just the business of living is a struggle –"

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MAN is a troubled animal. In this day and generation, we are inclined to think of ourselves as being subject to more unsolved problems than have ever happened before. We are not at all sure of the past, the present faces us with many confusing decisions, and many look at the future with forboding. Every generation tends to think that it is peculiarly situated, that it has more troubles than any preceding generation, but I suspect that this is not true. From the dawn of history, man has been troubled and he is rather inclined to think that his troubles are unique, never to have been met before, and presenting problems which are difficult, if not impossible, of solution. This worries many people, but it should not, because man is a living system and every living system is constantly trying to reach some kind of satisfactory adjustment to all the impulses that fall upon him during his lifetime. In one sense of the word, just the business of living is a struggle.

There are two elements in the environment of every living system, and of man in particular, that must be reckoned with. In the first place we, as human beings, must adjust to our material or physical environment; to all the things seen, or heard, or felt that come barging into the nervous system constantly. We must not forget, also, that what is going on inside the living body itself is constantly sending stimuli to the nervous system which must be reckoned with in order that there may be adequate internal adjustments. The living system requires these internal checks and balances as a basic necessity for the sense of well-being.

This is true of all living systems but, in man, there is an added element in the environment which makes the problem somewhat more difficult of solution. Coming into the nervous system at all times are things heard or seen, the end result of which is the appearance, in communication, of ideas. These are major elements in the external environment to which man must adjust. Ideas are really supremely important; in fact, it can be said without fear of contradiction, that an idea is far more powerful and in some cases far more disastrous than any atomic bomb, hurricane or tornado. The face of the world has been changed by ideas since the dawn of history. These two kinds of stimuli entering the nervous system, what may be called the physical stimuli on the one hand and the ideological stimuli on the other, if we are to maintain a semblance of a sense of well-being, must be adjusted to. Interestingly enough, it seems clear from what we know about the nervous system of man, that there are two quite different sets of nerve cells involved in these two aspects of adjustment of the living system to its total environment. Deep in the heart of the nervous system there is a group of neurones that, for purposes of description, has been called the basal ganglia. These neurones are concerned, primarily, with automatic adjustment of the living system to its physical environment. The patterns of adjustment are characteristic of the species to which the animal belongs; they provide the motor activities which we recognize as being found only in man. By means of these, in some measure, we differentiate man from all other living systems. These patterns are inherited patterns. There is really no first-hand evidence to show that they are subject to the processes of education or of experience. It may be that their efficiency is increased by activity but, so far as we know, there are no new patterns woven into these automatic adjustments. One way of describing these adjustments is to call them primitive adjustments. In all probability they constitute, in some measure at least, what we think of when we speak of instincts; the automatic motor activity involved in courtship, in mating, in fighting, in feeding; all the manifold mechanisms by which the living system is enabled to maintain its bodily form in the face of a constant chemical flux and by means of which it avoids inimical factors in the environment, even combatting these factors in rage or anger. These kinds of activity can hardly be gainsaid and we know from the experimental study of the nervous system in particular, and from the vast sources of information from clinical neurology in general, that these are associated with groups of nerves and their cell bodies, collectively called the basal ganglia.

The basal ganglia can be seen to possess two functions. One group of cells, commonly called the thalamus, are the receiving station for all physical stimuli and, hence, serve a sensory function. These stimuli are integrated, coordinated, and put together without, however, much discrimination. In the end, they provide the organism with a nondiscriminatory awareness of his physical environment. In order to maintain that awareness at a satisfactory level, the integrations within the thalamus must be converted into some kind of motor activity so designed as to maintain satisfactory relations for the individual to his physical environment. To a considerable extent, these motor activities are lodged in the second half of the basal ganglia, consisting of the caudate nucleus and the lenticular nucleus. It can be shown that these motor patterns become increasingly complex, as one views the long story of evolution. Hand-in-hand with these more complicated activities there can be shown in these motor components greater numbers of nerve cells or neurones. Between the sensory mechanism of the thalamus and the motor mechanisms are many fibers binding the basal ganglia together into a well-ordered unit. A great deal of this activity goes on, of course, in close association with other parts of the nervous system. In a very real sense of the word, this is subconscious. It is fashionable to think of these subconscious controls as derived largely from neuronal components which, together, constitute the emotional set of the individual or what the clinicians call the *affect*. The emotions are an important aspect of living; they provide a great deal of the color of the process of living. The motor responses to the syntheses within the sensory nucleus of the basal ganglia determine our emotional set or attitude toward our physical environment. There are some who maintain that this is the most important aspect of human behavior, that it should be sought for, that it should be played up as the dominant and most important aspect of this traditionally difficult problem of human behavior. Emotional content of writing, of artistic creation in word, or pigment, or sound is important, vitally important, and exceedingly valuable, but it must not be played up as the be-all and end-all of existence. It must not be assumed that the emotional content of one's behavior is the most important thing to be sought, the most important controlling factor in all of our activities, because there is a second aspect of this problem of behavior.

We adjust not only to our physical environment but to our ideological environment. The neurones which are involved in this second aspect of our relations to our environment are in the thin layer of grey cells which lies on the surface of the brain, the thing most of us think of when we talk about grey matter. This grey mantle, or cortex, can be shown to have developed, both from the standpoint of evolution and from the standpoint of development, from cells which wander out from the basal ganglia complex to take up this superficial position on the surface of the brain. This wandering of cells toward the surface is one of the unique and extraordinary characteristics of the development of the human nervous system. No one knows what starts these cells wandering, directs them in their path, and determines where they shall ultimately end. The fact remains, however, that these cells do wander out to the surface and there, because of the wrinkling of the surface of the brain, increase enormously in numbers. Estimates of these numbers have steadily increased over the years, as we have learned more about the nervous system, until the current guess is that there are some ten billion cells in this grey mantle or cortex. In the process of wandering from the basal ganglia and central grey out to the surface, connections between the basal ganglia and the cortex are reestablished. There is a very rich set of intercommunicating pathways, two-way streets, between cortex and basal ganglia. The cortex, because of its increased number of neurones, makes possible much finer comparisons of incoming information; in other words, adds to the nervous system rather extraordinary capacities for discrimination. Again, because of the great increase in numbers, the combinations, the permutations and combinations of all these incoming impulses is enormously increased. Interestingly enough, here in the grey matter of the brain a phenomenon turns up which is seen often in the examination of living systems, and it is this:—with each new increase in the numbers of cellular units and the corresponding increase in their interconnections, new and qualitative attributes appear which were not characteristic of the lesser numbers of cells. The qualitative attribute of this amazingly complex cortex is the thing we know as the mind of man. Because of man's constant willingness to attach a name to a phenomenon and assume, thereby, that he has explained it, many people think of the mind of man as some extra-natural or supernatural aspect of human beings; in the living system but not of it; capable of directing the living system but, nevertheless, something over and above and beyond the nervous system. The mind has then been endowed with the property of will, even of free will, the property of making decisions, the problem of controlling all activity. For many people, this functional activity of the mind of man constitutes his rational control of behavior, his reason. All these things are true; there seems to be little question about that, but the position can be defended that the mind of man is not some mysterious thing, some supernatural soul which sits on the nervous system and directs its activities; rather, it is a consequence of the markedly increased numbers of cells, endowing the nervous system with qualitative attributes which were not there before. This is simply another way of saying that the mind of man is nothing more nor less than the result of the physiologic activity of the neurones, probably not only of the cortex, but of the whole nervous system. Now, in some way which we do not yet know in detail, when we see or hear words they become locked in the nervous system as symbols for ideas and as such they become quite adequate activators of other nerve cells of the nervous system. This means that an idea is just as powerful a stimulus to the nervous system as any change in the chemical or physical environment; in fact, it can be argued without much fear of contradiction, that the result of the impact of an idea on the neurones of the cortex has more far reaching consequences than any single stimulus from the outside world. This cortex, then, the resting place of the mind of man, is inextricably commingled with the neurones of the basal ganglia. The two can never be separated. In some senses of the word, it can be argued that the cortex is really nothing more nor less than an expansion of basal ganglia function. In any event, this means that the activities of the basal ganglia, through their communications with the cortex, color and modify the cortex. This is important, because many people like to think that man is a rational animal, that he can react to his environment on a purely reasonable level, divorced from the animal in him. This, you will recognize, as the point of view of many people who think that man, the consequence of long eons of evolution, still has a great deal of the animal in him. Of course, he has. He is an animal and his animal-like activities, or his primitive behavior is one of the very important components of all human behavior.

The cortex adds to the nervous system not only the function of increased discrimination and integration, the erection of symbols that stand for ideas, but it also adds to the living system one extraordinarily valuable attribute. It confers on each human being individual, unique properties to be found nowhere else in the universe, so far as our present knowledge goes. No two of us are alike. To be sure, we have two hands, two feet, two eyes, and so on, like other human beings, but when one moves beyond the physical attributes of the human beings, it can be argued, without doubt, that each human being is a unique individual. In fact, again, it can be held that it is this uniqueness of the human organism toward which all evolution has streamed. This is not to say that we know that this is the end of evolution but, at least, so far as we have gone along the pathway, clearly enough this is the outcome of evolution. This implies, as will be readily seen, that evolution has had direction, that evolution has been going somewhere, toward the development of uniquely different individual living systems. We all know, of course, that the story of evolution is fraught with trial and error, with many mistakes which, for some people, has meant that it does not sound as though the controlling forces in evolution had been very intelligent. It must not be forgotten, however, that evolution of living systems is like the evolution of the universe. It has been a process of growth, of movement, of many trials and many errors, nevertheless, it has gotten somewhere—the unique human being.

The cortex can never act independently of the basal ganglia, because this cortex is an outgrowth of wandering cells from the basal ganglia, and because it is intimately connected with it by two-way communications. It always controls behavior through the basal ganglia. Interestingly enough, as one studies the evolution of the nervous system, each new capacity of nervous control of behavior always operates through older controls. Now some of these older, primitive behavior patterns are not too successful as guides to the behavior of the unique human being. The cortex, because of its sensitivity to ideas, as well as to physical stimuli, often comes up with new combinations, new kinds of behavior, new ways of doing things which are at variance, and often in conflict with primitive behavior. Since anatomists and physiologists know that the cortex has many connections with basal ganglia, it can be shown that the fiber tracts involved transmit signals which stimulate the basal nuclei to activity on the one hand, and on the other regulate, or inhibit, or abolish certain elements of the primitive behavior which are at variance with the controls mediated from the cortex. Thus, there arises in human behavior automatic behavior controlled by the basal ganglia on the one hand, and discriminative and rational behavior on the other. Because the reasoned or discriminated patterns often demand things which cannot be handled by the basal ganglia or which, if handled by the basal ganglia would not yield a satisfactory adjustment by the living system, conflict arises. The elementary behavior patterns, organized deep in the substance of the brain, control the great proportion of our ordinary activities. We are rarely aware of them. We do not have to stop to figure out what muscles to contract or what balance must be achieved to take a forward step. These result, in part, from the functional activity of many neurones in the caudate and lenticular nuclei. Thus, there arises two controls of behavior, automatic, inherited ways of doing things, and discriminated, conscious, creative activity.

This, then, is the anatomy of anxiety, conflict between the discriminated, creative activities of the mind or cortex of man on the one hand, and the automatic, inherited patterns of primitive behavior of the basal ganglia on the other.

Thus, there is provided an adequate explanation for conflict, frustration, anxiety. When the demands of the primitive neurones of the basal ganglia call for one kind of activity and the discriminated, educable controls of the cortex call for another, there is almost certain to be confusion, conflict and anxiety. It seems to be reasonably clear that people differ from each other enormously in the relative dominance of these two aspects of existence. Many people behave almost entirely on the level of primitive controls; others, perhaps involved in some self-delusion, think that they have risen above the animal in man and behave on a rational level. It should be quite clear, however, that no one can be completely primitive, because we all have a cortex; nor can we all be exclusively rational, because all the activities of the cortex are colored by the emotional output of the basal ganglia. This should make it obvious that the business of adequate adjustment of humans to their physical environment and to their human relationships must be the establishment of some kind of a balance between cortex and basal ganglia.

The problem arises, if one accepts the analysis presented here, how this balance can be established. So far as anyone knows, there are no automatic neuronal connections which guarantee the establishment of such a balance. Since the cortex, moreover, can learn, because of its enormous numbers of cells, its activities are necessarily changing; they develop and grow with experience. Interestingly enough, it has been shown by clinical neurosurgeons that if fairly large areas of the frontal part of the cortex are removed for pathology of one sort or another, rather profound changes occur in the behavior of that particular individual. Most of us, most of the time, are fairly well-oriented to our environment; we know where we are, we know the time of day, the day of the week, or month, or year, and similar ordinary things. If, however, the outlet from the cortex going to the basal ganglia is obliterated by any of a number of techniques, there is a profound change in the behavior of the individual or what is called in the personality of the individual. He reverts to the animal. Someone even called it reverting to the vegetable. The individual seems to be disoriented in time and place; he no longer is able to discriminate, to make adequate adjustments on anything but a purely physical level. The primitive controls of sex, and hunger, and fear dominate his picture. Some neurosurgeons even maintain that such individuals have lost their "souls." This makes it quite clear that the functions of the cortex, in addition to providing uniqueness in behavior, also provide adequate regulation of the more primitive aspects of animal reactions to the physical environment. It has been shown, moreover, with a certain degree of success, that the connections between the frontal parts of the cortex and the basal ganglia, over a two-way street known as the frontal thalamic path, serve as a means by which the often divergent syntheses can be harmonized. If that tract is interrupted, the balance is lost.

Curiously enough, this connection of cortex to basal ganglia is one of the last of all the pathways in the nervous system to acquire functional maturity. It has been shown that this functional maturity probably does not reach its optimum of efficiency until the end of the second decade of life. This supposes, of course, that practice and experience, the business of living, help to activate the neural connections of this pathway to make them an important, controlling factor in human behavior. Perhaps this is why the adolescent is so difficult to understand. His fronto-thalamic tract is not yet functionally mature and, as a consequence, he is still more animal than man. It can be argued, of course, that there are individuals in the population who never acquire effective control through this functionally important pathway. This may be a matter of inherited pattern, but it can also be the consequence of inadequate experience in the integrative functions of the cerebral cortex. Since all neurons are educable, to some extent; since they can all learn by practice and experience to perform their particular functions more efficiently, it would seem reasonably safe to conclude that the more adequate experience and training the cortex can get, the greater the chance of proper balance between rational and primitive behavior. This implies, of course, that the effective functioning of the cortex, like many other pieces of apparatus, is dependent upon the kind of input to it; in other words, the kind of education which the cortex receives from the ideological world. This has many advantages but, also, grave disadvantages. If we knew well enough what this business of living is all about, it might be possible to set up environmental circumstances which would always result in the development of cortical controls in good and adequate balance with primitive controls. Unfortunately, however, man does not know all the answers. He does not yet know what he is or why he is here. He therefore fumbles, tries, falls into error, and the result is that the problem of human relations is just as far from being solved today as it was in the beginning of man's career on this earth. Because he does not know all the answers, because he cannot figure out just what all the shooting is about, he tends to substitute for knowledge and wisdom pet schemes of his own to control, most commonly, other people's behavior, not his own. He forgets that he is a unique person and what may be adequate and proper for himself is by no manner of means adequate and proper for others. Because this kind of behavior is often in conflict with others, its first attempt is to control the activities of others by feeding into their brains what he believes to be the right kind of information. Others, of course, make every attempt to see to it that the right kind of information comes into their own nervous system. This, of course, is the basis of all educational procedures. We hope to feed the right bits of information into the cortex of young people so that, as they grow and mature, they can develop adequate balance between reason and emotion.

Since we do not know the answers, however, we have to invent, more or less pragmatically, methods of controlling behavior. These are usually classified under the head of the moral law, or the written law. They are somewhat feeble attempts of the mind of man to substitute, for his ignorance, arbitrary rules. Interestingly enough, man has acquired an increasing control over his physical environment. The development of our understanding of the world around us has grown astonishingly in the last hundred years. This has been made possible by the method of science and has resulted in the uncovering not of all the Natural Law, or the Law of the Universe, but a great deal of it. While there is yet much to be learned, what we have learned has produced extraordinary results in man's understanding of Nature. Why, then, should we not apply the methods of science to the problem of human relations? Why should we not substitute for vain moral or written law the Natural Law of the Universe? Or, since we do not know all there is to know about the Natural Law of the Universe, why do we not make some attempt to write our laws in terms of what we do know about the laws of the Universe? Here, we have fallen down almost completely. Neither the moral nor the written law has any significant relationship to our understanding of the Natural Law of the Universe. It would seem proper, therefore, for students of human behavior to master, as much as is possible, the implications of the Natural Law and to build it into the pragmatic controls of the individual's own behavior, and not to worry about the controls of other people's behavior. If any human being's activities could be as adequately adjusted to the Natural Law as are the automobiles, airplanes, atomic plants and so on, it is reasonable to conclude that it would not be necessary to try to control other people's behavior. This is one of our great defects; the desire to correct others, often without any attempt to correct ourselves.

There is one other great difficulty in the ignoring of the Natural Law; the pragmatic, moral or written law tends to be more or less static. Many believe that this kind of law is revealed law, that individuals have been selected out of the population by some higher power to tell the rest of us how things should be done, and this is supposed to be good for all men at all times, and in all places. Now we know that the law of gravity operates in New York City or in Timbucto; it operates everywhere at all times. The moral law, or the written law should have the same fundamental properties as has the law of gravitation, and yet what is good behavior in London is not necessarily good behavior in Calcutta or Bangkok or Cape Town. There are no generalities in the written law or the moral law which have the same validity as the generality of the law of gravitation and all the other natural laws about which we know. This static or invariant property of the written law has had its stultifying effect upon mankind because it has grown up largely without reference to the Natural Law. This does not mean to imply, however, that Natural Law is the sort of thing about which we know everything. There are a few of the Natural Laws which we seem to know fairly well. But man's incredible effectiveness in controlling his physical environment has resulted from the enormous increase of our understanding of the Natural Law. Out of that understanding has come amazing control over our physical environment. It looks almost as though man, as he understands more and more of the Natural Law, could do anything, that there are no limits to his activities. As a consequence of this kind of thinking our understanding of the Universe around us is constantly growing. It is not static; it is developing. If our written and moral law grew and expanded as has our understanding of the Natural Law, who could fortell its effect upon populations or on individuals?

Now the method of science, unfortunately, involves the setting up of working hypotheses, of theories, and their analysis in controlled experimental situations. Man, being a somewhat obstinate individual, does not readily lend himself to the rigid requirements of experimentation. As a matter of fact, he does not subject himself to it at all, except when Natural Law is being studied. If we could place man in an experimentally controlled human situation, such as is done in studying man at high altitudes and at great speeds, who can tell what the consequences would be? Since subjecting man to such an experimental situation is well-nigh impossible, other procedures must be developed. Knowledge of the fundamental laws of the Universe has yielded phenomenal results in the material world. It would seem wise, therefore, to apply this kind of knowledge to the problems of human relations. Since, moreover, our behavior flows out of the activities of the nervous system, and since these in turn result from the operation of the Natural Law which establishes the position and connections of the cells of the nervous system, the intelligent procedure would quite obviously be to relate any study of man first of all to the Natural Law. Over the years, man has attempted to solve the problem by communicating to others his own revealed moral law, or his arbitrary written law. All too often there has been little or no relation of man-made law to the law and order of the Universe. It is logical to conclude, therefore, that it would be worthwhile to communicate to the mind of man, to his cortex, the ideas and symbols which comprise our understanding of the nature of the Universe and of the part the Natural Law has played in the development of each human individual to the end that the controls of behavior, instead of fighting the Natural Law of the nervous system, would develop understanding of it and adequate stabilizing factors. It is not possible for anyone, not one of us is wise enough, to predict just how this could be done. There must be, necessarily, a great deal of trial and error. To be sure, the history of mankind has shown a great deal of evidence of this kind of an attempt to develop an adequate balance between reason and emotion, but it has been pretty much catch-as-catch-can with success in some instances and failures in many others. It would seem reasonably clear, however, that unsuccessful as the historic attempts to develop understanding of human relationships, to develop adequate adjustment of the human organism to its physical and ideological environment have been, it would also seem only intelligent to seek a new method of attacking this problem of the still unsolved problem of human relations. In spite of the hundreds of years that man has lived, we really have gotten nowhere. We are troubled, we are frustrated, we are anxious, we have no adequate guide as to how to attack this problem or how to hope for a successful solution to it. Needless to say, there is no easy answer to this question; no single key that will unlock the riddle, nor is there any pink pill that will automatically guarantee a successful answer. In this, as in all other areas of living activity, there must be a great deal of trial and error but, evolution through trial and error has had a goal, the creation of uniquely different individual human beings. Through the operations of Natural Law, why can we not attack the problem of human relationships, basing the study on our understanding of the Natural Law and the incorporation of it into the education and enhancement of the functional activities of the cortex, that part of the nervous system which alone apparently can develop some kind of balance between the two aspects of the environment? If this can be done, we should be able to abolish or, at least, markedly reduce frustration and conflict and anxiety.

USEFULNESS OF SERUM LIPIDS IN THE PREDICTION and TREATMENT OF CORONARY DISEASE

PART ONE AND PART TWO

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PART ONE

The association of high concentrations of serum lipids and increased incidence of atherosclerosis in certain diseases has led many physicians to use serum lipids as a laboratory aid in the prognosis, diagnosis and treatment of coronary artery disease. Claims for this association are based largely on circumstantial evidence and old information. A re-evaluation of the meaning, usefulness and limitations of serum lipids as a guide to the physician can be made on the basis of recent knowledge.

The chief categories of serum lipids are cholesterol, phospholipids, and triglycerides. Abnormalities in various of the lipid fractions have been reported in coronary artery disease and have been reviewed in this journal.[1] These abnormalities include elevated concentration of cholesterol and of the ratio of cholesterol to phospholipids. The proportion of lipids transported in giant lipoprotein molecules of low density may be increased in coronary artery disease.[2] A cluster of phenomena related to poor utilization of triglycerides or neutral fat probably constitute the best index of probability of coronary disease. These include increased concentration of fasting triglycerides,[3] prolonged alimentary lipemia,[4] increased numbers of chylomicrons, and increased turbidity of serum.[5] Serum triglycerides are frequently elevated above the upper limit of normal of 6.0 mEq/L in patients with coronary artery disease even though the cholesterol is normal.[3] If the postabsorptive concentration of triglycerides is greater than 20 mEq/L, visible turbidity results. As a rule, however, the triglycerides are less than the 20 mEq/L necessary to cause lactescence[6] and the diagnosis of hypertriglyceridemia can be made only by the chemical determination of triglycerides in the serum.

The only one of the serum lipids determined in the average clinical laboratory is the serum cholesterol. The rest of this paper will therefore be confined to an evaluation of the significance of serum cholesterol in coronary artery disease. The alleged association between coronary heart disease and serum cholesterol is based on animal experimentation, on epidemiological comparison of members of completely different cultures, and on the increased incidence of atherosclerosis in patients with diseases commonly associated with increased concentration of serum cholesterol, such as diabetes, hypothyroidism, nephrosis, and familial hypercholesterolemia with xanthomatosis.

The diagnostic and prognostic significance of serum cholesterol is now being evaluated in a carefully controlled study in Framingham, Massachusetts. Under the auspices of the National Heart Institute a large segment of the population of this town is under long term study with reference to serum cholesterol, lipoprotein pattern, and the development of future vascular disease. The results of the first two years have been published.[7] Of approximately 5,000 healthy men between the ages of 40 and 59, a group chosen because of the high susceptibility of middle aged men to coronary artery disease, about 50 suffered a coronary thrombosis, or developed other evidence of definite coronary artery disease. The blood lipid pattern of this group was then compared with the blood lipids of healthy individuals of the same age. The results showed that both cholesterol and lipoprotein studies were all but useless in predicting coronary artery disease. Although the mean cholesterol concentration of the coronary group was higher than the average mean for this age and sex of about 240 mg. per cent, there was a large overlap. For instance, the concentration of cholesterol which was exceeded by most of the coronary patients was also exceeded by 75 per cent of the normal individuals. If cholesterol were to be used to show susceptibility to coronary artery disease, in order to identify most of the 50 truly susceptible individuals in the group of 5,000, it would be necessary to cast suspicion on 75 per cent, or 3,800 members, of the remaining 4,950 members of this group. Thus the statistical relationship between cholesterol and coronary artery disease does show a relationship between these parameters which may be of significance in determining the etiology of this disease, but it is not close enough to be of use in the prediction of coronary disease in a given otherwise healthy individual.

Using the Framingham data one can draw certain tentative conclusions about the probability of future coronary artery disease in an otherwise normal individual, using serum cholesterol concentration as the sole criterion. Of the approximately 25 per cent of men aged 40 to 59 having a serum cholesterol concentration below about 210 mg. per cent, 0.64 per cent had a coronary or related event in two years. Put differently, such an individual has one chance in 167 of having a coronary in the next two years. Extrapolating to the future, if the same pattern of incidence of new disease continues for 20 years (a hazardous assumption) the chances of such an individual having a coronary in the next 20 years is one in 17.

About 65 per cent of the population studied had serum cholesterol concentrations between about 210 and 300 mg. per cent. Two per cent of these individuals developed new coronary disease in two years, or a chance of one in 50 that a man between 40 and 59 with a cholesterol concentration in this range would have a coronary within two years, or (extrapolating to the future) one chance in five of having a coronary in the next 20 years.

Even of the approximately 10 per cent of the individuals with a serum cholesterol concentration greater than 300 mg. per cent, only about three per cent developed definite new coronary disease in two years, or one chance in 33 that such a person, on the basis of cholesterol concentration alone, would have a coronary in two years. Extrapolating to the future such a person would have one chance in three of having a coronary in the next 20 years.

These estimations derived from the published data of the Framingham study are intended merely as rough guides in assessing the serum cholesterol concentrations in an otherwise normal individual. Persons with hypertension, diabetes, or other diseases predisposing to atherosclerosis were excluded from the "normal" base population. The presence of these conditions in an individual would of course increase the risk of future coronary disease. Serum cholesterol concentration is useful in making the diagnosis of familial hypercholesterolemia where this condition exists without the pathognomonic tendon xanthomata. The risk of coronary artery disease is high in this group. Abnormally high concentrations of serum cholesterol in young individuals may also carry a graver significance than in the normal middle aged population under study in Framingham.

It is clear that the serum cholesterol concentration alone is not diagnostic of coronary artery disease but must be considered merely as a guide to the probability of such disease. As is true of any laboratory test it must be judged in the light of the complete clinical situation in each individual case.

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PART TWO

Evidence for the association between increased concentration of serum cholesterol and increased susceptibility to coronary artery disease was recently reviewed in Part One of the present paper. This association was found to be only a statistical one of increasing likelihood of coronary artery disease with increasing concentration of serum cholesterol, of little help in predicting future coronary disease in a single individual. Most patients developing overt coronary disease have serum cholesterol concentrations falling in the range which also includes three quarters or more of the normal population of middle aged males. The physician wishing to lower the cholesterol concentration of susceptible individuals must, if he uses serum cholesterol as the sole indicator of susceptibility, treat in like manner the great majority of the population. Rather than inconvenience such a large segment of the population needlessly he may decide to attempt to lower the cholesterol only if it is very high and if the patient has evidence of coronary artery disease.

Whatever the criteria used for estimating risk of coronary disease, the effectiveness of cholesterol-lowering agents in reducing such risk depends on two as yet unproved assumptions: first, that the concentration of serum cholesterol can be permanently lowered, and second, that lowering the concentration improves the patient's prognosis. Both of these assumptions are open to some question. The concentration of serum cholesterol is at least in part genetically determined,[1] and the extent to which environmental factors can modify this genetic predisposition is not fully known. Of the various cholesterol-lowering maneuvers, the low fat diet has received the greatest attention. Evidence for the effectiveness of this diet is based largely on epidemiological studies showing that races or groups of people consuming low fat diets have lower concentrations of serum cholesterol and a lower incidence or coronary artery disease.[2] It is hazardous to credit dietary fat with responsibility for these differences in peoples who differ in so many other respects than diet, blood cholesterol, and susceptibility to atherosclerosis.[3]

Does changing the diet by withdrawing fat help prevent coronary artery disease or improve the prognosis of existing coronary artery disease? There is little information on this most important question. The Framingham study group has abandoned attempts to evaluate the effects of changes of diet on the course of existing coronary artery disease. Short-term studies suggest that a low fat diet lowers serum cholesterol, but when total calories are controlled it seems more likely that caloric balance rather than dietary fat may be the factor determining cholesterol concentration.[4] Cholesterol may be transiently reduced when a low fat diet is instituted, associated with weight loss. When caloric equilibrium is reached, however, the cholesterol frequently and relentlessly returns to its original value. A study of members of a religious group in this country who because of their religious beliefs subsist on a very low fat diet (about 30 Gm a day) revealed serum cholesterol concentrations identical to the concentrations expected in individuals of the same age in the population at large.[5]

The few clinical studies that have been made on the effect of fat restriction on prognosis of patients who have had a coronary thrombosis have failed to separate the effects of fat restriction from those of caloric restriction.[6]

The substitution of unsaturated vegetable oils for animal fats in the diet will effectively lower the concentration of serum cholesterol for as long as this diet is followed (up to three years in a few reported cases),[7] although the author has had one patient "relapse" to previous high levels after two years of doing well on corn oil. The influence of corn oil is evidently a pharmacological effect of large doses. For such a regimen to be effective corn oil or similar vegetable oil must be given in doses as large as three or four ounces a day, and animal fat kept below 30 Gm. daily, a restriction which means almost the total elimination from the diet of meat as well as of butter, cream, eggs and cheese. Few patients are willing to adhere to this unpleasant regimen for long. While less drastic measures may be effective in some individuals, unfortunately the patients with the highest cholesterol concentrations are the most resistant to treatment. The evaluation of such diets is gravely hampered by the difficulty of obtaining patient cooperation over a long enough period of time.

Nicotinic acid in large doses lowers the serum cholesterol but has unpleasant side effects.[8] Large doses of thyroid hormone or its analogues will lower the serum cholesterol but at the risk of causing symptoms of hyperthyroidism.[9] Vegetable sterols (sitosterol) have had a cholesterol-lowering effect on some patients but have on the whole been disappointing.[10] Further long term study will be required before it can be said that any of these agents has a permanent effect on cholesterol concentration or on the process of atherosclerosis.

Heparin is being investigated with regard to its property of inducing "clearing." While heparin has no effect on serum cholesterol concentration, it does cause clearing of alimentary lipemia, when injected intravenously or subcutaneously in doses much smaller than those necessary to prevent clotting.[11] The common finding of high concentrations of triglycerides (neutral fat) in the sera of patients with coronary artery disease, as well as reports of prolonged alimentary lipemia in such patients, both point to a defect in triglyceride metabolism (See Part One). The possibility that heparin corrects such a defect is certainly intriguing and deserves further investigation. Repeated injections of heparin may improve the prognosis of coronary artery disease.[12] Sublingual heparin in the hands of one observer diminished alimentary lipemia.[13] These findings await confirmation.

The effectiveness of any therapeutic regimen can be judged only in terms of its long-term results.

The lack of any such long term studies bespeaks the extreme difficulty of getting any patient to stick to any diet or medication over the years. At the present we have only clues, not facts, and the seriousness with which the physician takes such clues with respect to any one patient depends on his philosophy of balancing the disadvantages of treatment which is as yet unproved against the odds that such a patient, taking all clinical and laboratory data into consideration, will develop coronary artery disease if untreated.

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"The origin of all science is the desire to know causes; and the origin of all false science and imposture is in the desire to accept false causes rather than none; or which is the same thing in the unwillingness to acknowledge our own ignorance."

William Hazlitt

Opinion Survey And Relative Value Study

The following article seems to outline in a rather concise manner the over-all purposes, uses and potential hazards of the adoption of a Relative Value Scale.

W. R. R.

A Sane New Way To Set Medical Fees

Hugh C. Sherwood

In a growing movement, doctors are using point scales to measure the real value of specific services.

Today, some 124,000,000 Americans have health insurance. But even the best insurance policies don't always cover as many of the costs of illness as most patients would like. The worst policies offer a great deal of protection against rare illnesses and injuries, but little protection against common conditions.

One reason some policies haven't provided better benefits is that their payments to patients are based on the statistical *frequency* of particular operations or on similar statistical factors not directly related to the probable costs of such operations.

The inadequacy of many such policies has worried a great many physicians. Opposed to Federal health insurance, they naturally want to see private insurors do the best possible job.

To help them do so, physicians in a few states have recently tackled the problem of medical-care costs in an unprecedented manner that has the support of the American Medical Association and could have great significance for all of us.

These doctors have set up so-called relative-value scales, which show what one medical procedure is really worth in relation to others. By basing their payments to patients on the values listed in the scales, health insurors can provide benefits that are more in line with what doctors and hospitals really charge.

A number of insurance companies, health plans and local governmental units have already begun to use the scales. As a result, in states where the medical scales are now in existence, many insured patients who fall ill are paying less out of their own pockets than in pre-scale times.

The importance of the scales has been termed "of the highest order" by Dr. Elmer G. Shelley, a member of the American Medical Association's Committee on Medical Practices. Other medical leaders agree.

What states use the scales? Exactly how do the scales work?

Relative-value scales have been adopted by the medical societies of at least five states—California, Iowa, Kansas, Montana, and Nebraska. Last June, physicians in the District of Columbia adopted a scale, too—and the movement shows signs of spreading rapidly.

Although they're being used to make insurance payments to patients more realistic, relative-value scales are not—in and of themselves—*fee* schedules. Instead the scales relate the worth of one medical procedure to other medical procedures by means of points. It is left to the individual physician to place his own money value on the basic point.

Point determinations are based on the amount of time, the amount of skill and so forth that typical doctors devote to typical patients in need of specific care or treatment.

The Kansas scale, for example, rates a visit to a doctor's office for treatment of a routine condition like a common cold as worth *one point.* The scale places the same value on a doctor's visit to a hospitalized patient. It rates a doctor's first visit to a patient at home, however, as worth *two points,* and subsequent home visits *one and a half points.*

Other kinds of medical care are valued more highly—an hour with a psychiatrist at *four points,* for instance, a tonsillectomy at *fifteen,* a hemorrhoidectomy at *twenty-five,* and appendectomy at *thirty-five,* and a hysterectomy at *sixty.*

Naturally there are some point variations in other states' scales, but variations, when they do occur, tend to be small.

Like a physician who uses a scale, health insurors would place a dollar value on such a basic medical procedure as an ordinary office visit. To find a fair payment for another procedure, the insuror multiplies the number of points allotted to the procedure by the dollar value it assigned to the office visit.

For example, the physicians in one state and the state's Blue Shield insurance plan recently negotiated a more comprehensive contract to be offered to certain patients. In doing so, the physicians and Blue Shield insurance officials agreed to value each point in the state's scale at $5. So, under the point values listed above, Blue Shield agreed to pay $5 for a routine office visit ($5 times one point), $10 for a first house call ($5 times two), and so on.

Blue Shield plans in California, Montana, Arkansas and Maine, among others, already have used medical society scales to re-valuate the payments they make to patients.

What's more, California's Board of Social Welfare has used its state's scale to reassess its schedule of payments for medical care of the indigent and aged. The Workmen's Compensation Schedule in Kansas is now based on the scale set up by the Kansas Medical Society. And some commercial insurance companies have also employed one or more scales.

Physicians are under no compulsion to use the scales, just as they can differ in point charges when they do use them. None the less, in states where they have been set up, many doctors are employing the scales to reassess their own personal fees. Dr. Barrett A. Nelson, a past president of both the Kansas Medical Society and that state's Blue Shield plan, reports: "When the scale in my state was set up, some of my colleagues found they'd been charging more than some procedures are probably worth, less than the real value of others. As a result of the scale, Kansas doctors now have a firm basis on which to set their fees."

And a Montana medical man says: "You'd think the scales would be particularly useful to young doctors starting out in practice. And so they are. But I've noted quite a few veteran doctors are using them too."

Physicians are not only employing the scales to help themselves set fees. Some doctors are also using them to help explain their fees to patients. While in most areas scales are not now directly available to patients, physicians are often willing to discuss them and some state and county medical societies are glad to answer specific questions about point values.

Both national and local medical leaders foresee still further uses for relative-value scales as more of them are set up and as both physicians and patients become more aware of their existence. For example, they think medical society grievance committees will use them to help settle fee disputes. (The California scale has already been put to such use by the San Diego County Medical Society.) And they think patients may ask to look at their doctor's scales before they buy health insurance. By checking the payments health plans make against a scale's relative values, the patients will get a good idea of the quality of the plans' coverage.

As noted, at least five states already have scales. And physicians in Connecticut, Michigan, and Minnesota are currently in the process of setting them up. What's more, medical spokesmen in a number of other states—notably New Hampshire, Utah and Vermont—indicate prospects are good their state medical societies may vote for scales too.

All of which brings forth this estimate from Dr. Lester D. Bibler, chairman of the A.M.A.'s Committee on Medical Practices: "I believe more than half of the states will have such scales shortly."

And he feels strongly that both doctors and the public stand to benefit.

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Special Article

"The Fat Cell: Origin And Structure"

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Framingham, Mass.

A study by Shaw,[1] at the beginning of the century (1901), did much to advance our knowledge on the development of adipose tissue. Examining human fetuses from the fourth month through maturity, he made the observation that small pellets of reddish-brown tissue, the pre-cursors of the adipose tissue, become visible in the subcutaneous tissue between the fifth and six months of intra-uterine life. Omental fat, the fat around the kidneys, in the axillae, groins, under the parietal pleura, and in other places made its appearance a few weeks later, in the form of glandlike masses of lobulated reddish-brown tissue, thus, he established that the subcutaneous fat has precedence in birth over the fat tissue in other localities.

In early phases of development these masses of lobulated pre-adipose tissue consist of round or polygonal cells of rather homogeneous size, which in their general architecture resemble epithelial, rather than mesenchymal elements. The nucleus is rather small, centrally placed or slightly eccentric, and the cytoplasm is dark and finely granular. At first, these cells are quite free from fat globules, even of the smallest dimensions; then as fat begins to be deposited, the cytoplasm assumes a foamy appearance, due to the presence of numerous fat globules.

Hibernating animals retain this sort of pre-adipose tissue throughout life, whereas in the human as well as in many animals which do not hibernate, the multi-globular fat cell, shortly before or after birth becomes an ordinary uni-globular fat cell. As this occurs, the fat globules fuse together in a single globule, and the nucleus becomes displaced at the cell periphery giving rise to the signet ring cell of mature adipose tissue.

There is a wide range of variability with respect to the time at which the embryonal fat assumes mature characteristics. Although this takes place in general shortly before birth, the persistence of embryonal features is not rarely encountered early in post-natal life. The transformation from the multi-globular to the uni-globular pattern does not occur simultaneously in all regions, and this unpredictable behavior further stresses the individuality of the adipose tissue in the various locations.

Under certain conditions, the uni-globular fat cell may revert to the original multi-globular pattern. This occurs, as a rule, whenever the nutritional state is poor. Melicow[2] has recently shown that in the presence of pheochromocytoma, the periadrenal fat assumes the characteristics of embryonal fat, whereas the fat cells in other localities (subcutaneous, retroperitoneal, perirenal fat) retain the characteristics of adult adipose tissue. Since during the alarm reaction (Selye and Timiras)[3] the discharge of adrenal cortical lipids is paralleled by the loss of sudanophilic material from the fat cell, a possible relationship may be seen between the added stress of pheochromocytoma and the occurrance of an embryonal type of fat in proximity of its sphere of activity.

It is now generally conceived that the uni-globular and multi-globular patterns of the adenoid fat tissue reflect different phases of metabolic activity of the same type of cell, rather than two distinct cell types, as thought by early investigators.

* * *

In contrast to the orderly lipogenesis taking place in the adenoid pre-adipose tissue, which results in the formation of well-defined fat organs, is the random formation of fat cells from the differentiation of a primitive mesenchymal cell.

The term "accidental" lipogenesis might be used for the formation of fat cells according to this generative mechanism, to indicate the random, unpredictable nature of the phenomenon, which involves many unexplored possibilities.

In this sort of embryonal lipogenesis the transformation of a mesenchymal cell into an adipose cell is initiated by the gradual deposition of fat globules in the cytoplasm of irregularly shaped, spindle or stellate cells. As fat globules accumulate, these cells assume a rounded appearance; then the fat globules coalesce to form a single large globule and as this takes place, the nucleus is displaced peripherally. The resulting cell mimics in all respects the fat cell of the adipose tissue.

Transitional patterns of this kind I have detected in the areolar connective tissue of three months' old embryos. They become more frequent in older fetuses, and although they are most commonly found in the subcutaneous tissue (where they contribute a good deal to the formation of the panniculus), they can be detected as well in other locations.

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Framingham Union Hospital Teaching Program, Basic Science Conference, March 17, 1959.

Since fat cells do not regenerate, or at best are provided with minimal regenerative power, new formation of fat cells in extrauterine life probably occurs according to the same plan by which some mesenchymal cells differentiate into fat cells in the embryo.

The ancestral relations between this undifferentiated mesenchymal cell and the adipose cell may explain, (a) the casual presence of fat cells where fat cells do not have apparent cause to be present; the occurrence of fat tissue neoplasms in locations where fat cells are not normally present; (b) the association of fat tissue and of other kinds of mesenchymal tissues in some forms of mixed connective tissue tumors; and finally it may elucidate the finding of mucin as well as fat in the cells of certain tumors from adipose tissue.

The condition generally known as "fat tissue ingrowth" also might find explanation in the same genetic relation. The term implies an infiltration of fat cells into the parenchyma of a given organ. Nonetheless, crowding out of the parenchymatous elements by fat cells is occasionally seen in places where fat cells are not normally present, and in these instances it is more appealing to assume that the fat cells took origin from the differentiation of local mesenchymal cells, capable of storing fat, rather than from spreading of adjacent fat cells.

The same is probably true for the so-called replacement adiposity, by which fatty cells assume positions left vacant through loss of solid tissue substance. The bone marrow is the tissue exhibiting this change most frequently with its fluctuations from cellular hematopoietic tissue to fat tissue, but a phenomenon of the same order takes place in the lymph nodes, in atrophic striated muscles, and it occurs quite regularly at the hilus of the kidney and other viscera, concomitant with a reduction in size for a multiplicity of causes.

Assuming, on the basis of present evidence, that the cell involved in this sort of accidental lipogenesis is a cell related to the widespread reticulo-endothelial system, the question arises whether fat deposition merely denotes phagocytosis of circulating lipids, or whether it is the exponent of a more complex metabolic phenomenon by which mesenchymal cells become true fat cells sharing the same attributes, activities, and functions of the fat cells found in the anatomically well-defined fat bodies.

* * *

Not long ago a new tissue—the so-called reticular tissue—has been discovered within the realm of the mesenchyme. This has opened a new avenue in the investigation of the nature of the fat cells, an avenue that particularly Wassermann and co-workers[4] have explored with considerable success.

Maximow[5] also depicts the embryonic adipose tissue as developing from undifferentiated mesenchymal cells about the blood vessels. He explains the formation of fat tissue in the adult on the basis of a differentiation of persistent undifferentiated mesenchymal cells, and as a further proof of the high degree of differentiation attained by the fat cell he stresses its inability to multiply.

The whole concept of the reticulo-endothelial system was derived from the demonstration that it possesses distinct metabolic functions (including the ability of digesting fats) and from observation of its reactions to parenterally introduced vital dyes or particulate material.

Since pre-cursors cannot be identified on strictly cytological basis, it is apparent that any attempt to search the ancestral relations between the fat cell and the primitive reticulum cell by morphologic method is met with the impossibilities that are inherent in the special nature of the system involved.

However, indirect support to the concept that the fat cell is related to the reticulo-endothelial system may be found in several collateral observations.

Early students of adipose tissue were impressed by the close relations interceding between fat cells and the walls of blood channels. On the other hand, it is well-known that connective tissue cells related to the reticulum are particularly abundant in close proximity to the blood channels.

A network of argentaffin fibers is a prominent feature of the reticular tissue and it is present as well in the adipose tissue.

Fat cells, particularly when depleted of fat content, share the property possessed by the reticulum cells of storing vital dyes.

The fundamental relationships between adipose tissue and hematopoietic tissue, a well-accepted kin of the reticulo-endothelial system, are also firmly established.

In the embryo the appearance of hematic and lymphocytoid cells precedes or coincides with the formation of fat cells.

Cyclic alternations between hematopoietic tissue and fat tissue take place in the bone marrow. Hematopoiesis in adipose tissue can be demonstrated with relative frequency in a variety of postnatal pathological states including fat tissue neogenesis,[6] a condition best exemplified by myelolipoma.

As lymphoid structures undergo involution, they are often replaced by fat tissue. This explains the occurrence of lymph nodes that come to be represented by a lobule of fat tissue still provided with a capsule, lymph sinuses and fibrous septa. Adipose and areolar tissues possess the capacity to undergo lymphadenoid transformation under stress (de-Groot).[7]

Hyperplasia of lymphoid tissue in depot fat, particularly in the omentum and mesentery, following splenectomy has been described by several investigators. Warthin[8] has traced the sequence of events leading to the formation of lymphoid tissue as being initiated by dilation of blood capillaries, removal of fat from the adipose cells along the dilated capillaries, conversion of these cells into reticular cells and then growth of lymphoid elements into the meshes of the reticulum.

Finally, in harmony with the concept of an adipose tissue akin to the reticular tissue is Portis[9] demonstration of the ability of the omentum to produce antibodies, subsequent to the aggregation of reticulo-endothelial cells, histologically quite similar to primitive adipose cells before fat storage occurs.

It is obvious that morphologic investigation, as applied to the study of the nature and origin of adipose tissue has yielded as much information as the method would permit. Despite the assumption that adipose tissue is akin to the widespread reticular tissue, still unanswered remains the problem of why fat tissue formation becomes a selected property of this tissue in some parts of the body, and not at least to the same degree in other parts. This necessarily brings one to consider the influences of metabolic stimuli, either local or general, endocrine, neurogenic or otherwise the further delineation of which will doubtless improve our knowledge on the origin and nature of the cell of the adipose tissue.

* * *

Isolated fat cells, in fresh preparations, are spherical. When crowded together they tend to deform one another and to become oval-shaped or polygonal, and this is their general appearance when observed in tissue sections. The usual methods employed in the processing of tissues for microscopic study cause loss of soluble fats from the cell body and this often results in collapse of the entire cellular structure and further distortion of contours.

Since a histological section includes only the segments of cells which become transected, fat cells never appear in their entire configuration. Although they cannot be visualized in their actual size, cross sectional measurements of fat cells within the transected portion of tissue reveal a striking variation in the size of the individual cells, a phenomenon which has no equivalent counterpart in any other cell type of the body.

These variations in size are related not only to the overall nutritional state of the organism, but also to the nutritional state of the individual anatomical fatty units, as well as of the individual fat cells within the same fat depot. Since the size of the cell is dependent upon the quantity of the lipid content; and the cell's size comes to reflect the degree of metabolic activity taking place in the cell body at the time it is examined, these variations may be interpreted as indicating that fat cells, within the same depot, as well as in different depots, do not function as a whole but each is provided with a certain degree of autonomic function.

This assumption finds support in Gage and Fish's[10] classical experiment showing that enterally introduced Sudan III does not become deposited in the different fat reservoirs with equal intensity. After five or six hours from the time of feeding, they noticed that the omentum, the mesentery, the perirenal adipose tissue and the panniculus in the abdominal and thoracic walls had assumed a deeper color than the adipose tissue in the popliteal space, in the orbit and around the spinal cord; at the same time the bone marrow fat had taken on a tinge midway between the abdominal fat and the popliteal fat. Thus, their well-justified conclusion that the different masses of fat in the body are somewhat different; that the perirenal and the abdominal fat are more available stores than more remote fat masses, and that the abdominal fat may serve as a convenient storehouse where excess fat can be stored and taken up quickly when needed. Conversely, they say, the fat masses in the popliteal spaces, in the orbits, and around the spinal cord, may be looked on as organs with a special function, acting as cushions for the delicate structures and organs which they surround, and hence are changed but little by the fluid fats which stream through the body.

The size of the fat cell plays an important role in the rate of exchange of gaseous, fluid or crystalloid substances that takes place between the cell and the tissue fluids of its environment. Since the rate of transfer of substances across the cell barrier is influenced by the ratio of surface to volume, the smaller the fat cell the greater the transfer. According to Gersh and Still[11] "S" being the cell's surface and "V" the cell's volume, the mean S/V is 2043.2 for the smaller fat cells of the fat-poor tissue and 1250.9 for the larger fat cells of the fat-rich tissue.

* * *

According to the traditional description the fat cell of adipose tissue consists of a droplet of fat surrounded by the cell wall. The latter is in turn described as being composed of a thin, inner protoplasmic layer, enclosing the flattened nucleus at one point of the circumference, and of an outer fibrillar membrane of reticular fibers.

Since the protoplasmic film of the fat cell is so thin that it ordinarily cannot be seen even with the aid of the highest available power of the microscope, its presence has been doubted by several investigators. Thus, Policard[12] has depicted the cell membrane of the fat cell as being exclusively composed of reticular fibers. If this is true, one would assume that the fat particles floating in the blood stream enter the cell body by a physical process, conditioned by the colloidal status of the cell. However, this view has been disproved from different quarters

(Continued on Page 38)

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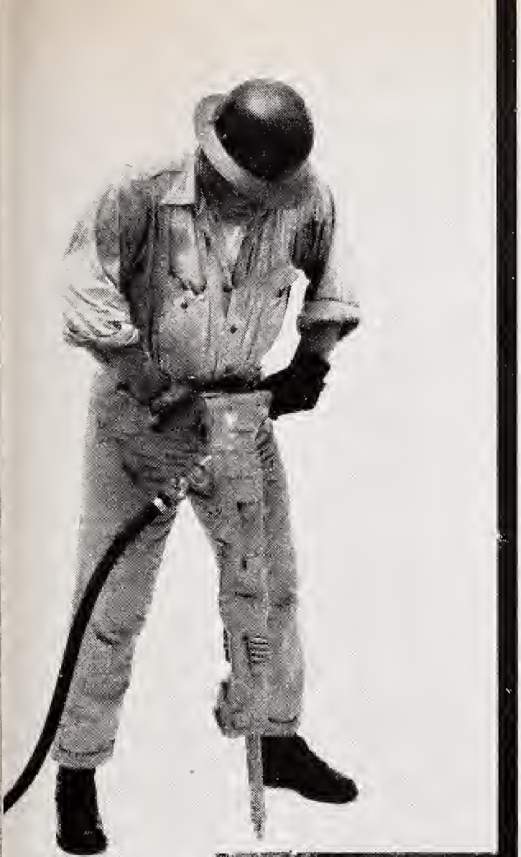
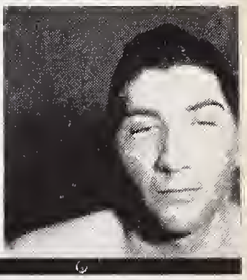


FORCE INJURY

severe bruises
. . . swelling
. . . cleared
by fifth day[2]

VARICOSE ULCER

15 years duration
. . . resolved with
VARIDASE[1]



INFLAMMATORY DERMATOSIS

rapidly spreading
rhus dermatitis
healed within
a week[1]

INFECTED LACERATION

marked reversal
in 3 days . . .
returned
to school . . .
closure advanced[1]

THROMBOPHLEBITIS

back on his feet
in a week after
recurrent episode[1]

REFRACTORY CELLULITIS

normal routine
resumed after 4 days
of VARIDASE[1]

and it is now generally accepted that the wall of the fat cell is provided with a protoplasmic layer.

As Cameron[13] says, probably the cell surface is a mosaic of patches composed of proteins, lipids, polysaccharides, which vary greatly from species to species, but possess features that control the interchanges between cells and their environment.

The demonstration that the fat cell possesses a protoplasmic layer, extending between the outer fibrillar membrane of reticular fibers and the contained fluid fat, has been provided by two unequivocal methods. One method, shown by Goldman,[14] depends on the ability of certain cells, particularly those of the reticulo-endothelial system, to store within their protoplasm vital dyes. Goldman, in his original paper on the vital dyes, made clear that the cells of the adipose tissue are capable of taking up colloidal dyes. This had been subsequently confirmed by several others (Dogliotti[15] and Clara[16]).

Additional evidence in favor of the concept that the fat cell is provided with a circumferential protoplasmic layer has been provided by another simple method, proposed by Wassermann.[17] Taking into consideration the fact that protoplasm will absorb fluid when placed in a hypotonic solution, this investigator immersed thin layers of adipose tissue, for one half hour or longer, in distilled water, or in a saturated aqueous solution of thymol and he noticed that the rim of protoplasm of the fat cell from almost invisible thinness may become a considerably swollen membrane, upon inbibition of fluid. Under these conditions he noticed further that between the outer fibrillar membrane of reticular fibers and the fat droplet there is a large area, agitated by particles in Brownian movement. It was just by the application of these methods that I have recently shown that Prussian blue stainable granules, presumably iron, are present in the cytoplasm of the fat cells.

Gersh and Still[11] have estimated that the protoplasm of the fat cell occupies 2.4 per cent of its total volume, that is to say that the volume of the cell is 41.6 times the volume of the protoplasm.

* * *

In the usual preparations of adipose tissue the nucleus of the fat cell appears as a flattened, sickle-shaped structure pushed to one side of the cell circumference. Often the nucleus is not included in the plane of section and the cell seems to consist only of a fat globule surrounded by the cell membrane. However, if a piece of adipose tissue is placed in a saturated aqueous solution of thionin for three to five minutes and then is immersed in thymol water, as suggested by Bremer,[18] the nucleus of the fat cell discloses itself in its true form namely as an oval or often spherical body, no longer compressed between the fat globule and the cell membrane.

In 1895 Unna[19] described a "punched out hole," shaped as a groove, in the nucleus of the fat cell, from an eighth to a half the size of the nucleus itself. The presence of this particular nuclear indentation has been confirmed by several investigators, however, very little is known of its significance and it is still not clear whether it represents an intranuclear, or extranuclear structure.

According to Stöhr[20] a notched nucleus is found in every adult fat cell. Instead other investigators Unna,[19] Schaffer,[21] Maximow,[22] Patzelt[23] have expressed the opinion that this nuclear pattern is found often, but not in every adult fat cell.

In isolated fat cells, as far as I was able to determine, this finding is constant. However, a long search may be necessary before indented nuclei can be found in the ordinary sections of adipose tissue; obviously many notches can be missed, according to the plane of section.

As Plaut[24] indicates, the nutritional state of the fat cell is not a factor in determining the visibility of this nuclear indentation. In fact, it can be identified in atrophied as well as in repleted fat cells. It can be recognized also in the fat cell of benign fatty growths.

The biological significance of this particular intranuclear or extranuclear formation is not clear; however, its mere morphological identification is of significant importance. Preliminary observations seem to indicate that the "notched" nucleus is a prerogative of the mature, monoglobular fat cell of the adipose tissue and that it is not detectable either in the multiglobular fat cell or in the fat cell of accidental lipogenesis. Should this be confirmed, the absence of a "notched" nucleus in the fatty cell of accidental lipogenesis might give additional support to Wasserman's contention that fatty cells of this sort do not belong to the adipose tissue in the true sense but merely represent phagocytic mesenchymal cells capable of storing fat.

* * *

Nageotte and Guyon[25] have depicted the fat cell "like a balloon suspended in a net," the net being composed of a thick network of interlacing argentaffin fibers, branching and anastomosing with one another, in the meshes of which lay the fat cell. Both monoglobular and multiglobular fat cells are provided with an outer fibrillar membrane of argentaffin fibers. However, a comparable structure is not as clearly demonstrable in the fatty cells of accidental lipogenesis at least in the situations I have examined (intraluminal appendiceal fat, fatty cells in wall of gallbladder.)

According to Schaffer[21] the thickness of the outer fibrillar membrane depends upon the amount of pressure exerted on the cells. When the tissue acts as a cushion and it is exposed to a great deal of pressure (as in the plantar adipose tissue), the outer membrane is very prominent; on the contrary where fat cells support each other and tissular pressure is of a minimal degree, the outer membrane is thin and occasionally missing.

Any attempt to interpret the origin and the nature of the fibrillar pericellular membrane of the adipose tissue is met with the same sort of uncertainties that still obscure the understanding of the "reticulin riddle" (Robb-Smith)[26] in other tissues of the body.

We owe to Robb-Smith[26] and his co-workers the demonstration that there are several sorts of argyrophilic fibers—"collagenous reticulins" including the "natural fibres"; "basement membrane reticulins," "immature collagen fibres," "artificial fibers," "non-collagenous reticulins"—all possessing the property of staining black in the toned and untoned silver preparations, but provided with different physical and chemical structure. Thus, the term reticulin comes to represent a collective denomination for a broad range of biological fibers which although possessing similar staining characteristics, vary considerably in their biological and physical characteristics.

Among these various reticulins, what is the position occupied by the fibrillar pericellular membrane of the adipose cell? The reticulin fibers of the adipose cells are isotrophic and branching, and of the order of one micron in diameter when seen in the light microscope. They accept the acid fuchsin in the van Gieson stain; the acid aniline dyes in the trichrome Mallory and Masson stains, and they stain black both in the toned and untoned silver preparations. An aminoacid analysis of the reticulins of the adipose tissue by Bowes and Kenten[27] showed a comparative distribution similar to that of collagen, except for a lower proline and hydroxyproline content. However, the material analyzed included the fibrous strands of the adipose tissue, the walls of the widespread blood capillary bed, and therefore the impurity of the samples invalidate the soundness of the results of the analysis.

The connections between the adipose cell of the fat tissue and the network of blood capillaries are so intimate and inseparable that actually there is no way to be sure whether the fibrillar membrane of reticulin fibers in which the fat cells are suspended belong to the outer wall of the cell themselves or to the closely associated capillary net.

* * *

Mesenchymal cells, which lack differentiation, rounded, elongated or irregularly-shaped are normally seen either sparsely scattered or in small groups, between the fatty cells of the adipose tissue. These cells possess scanty cytoplasm, a large nucleus, rounded or bean-shaped, with abundant chromatin substance, and occasionally one or more nucleoli. Although under normal conditions these cells are far from being conspicuous they assume prominence when the fat cells among which they lodge undergo atrophy.

Since fat cells do not regenerate, or at best they are provided with minimal regenerative power, it is probably from this sort of undifferentiated mesenchymal cells that new adipose cells are formed, whenever the necessity arises.

This takes place according to the same plan as that by which in embryonal development undifferentiated mesenchymal cells mature into fat cells.

Heterologous hematopoiesis occurs within fat tissue and because no other source is apparently available one must assume that the same undifferentiated mesenchymal cell possesses also the ability to manufacture blood cells, both of the red and white series, including megakaryocytes and lymphocytic elements. This stresses further the genetic relationship between blood forming organs and adipose tissue.

When fat cells break down, as it happens in acute inflammation and as a result of injury of various sorts, the same undifferentiated mesenchymal cell awakes from its dormant state and becomes actively engaged in making the macrophages and probably other kinds of inflammatory cells that are needed in the process of tissue repair.

Although the real nature of this undifferentiated cell cannot be identified on a strictly cytological basis, its ability to differentiate into so many different types of cells, each capable of performing a different function, indirectly reveals its essential character, that is essentially that of a totipotent reticulum cell.

* * *

The close topographic relationship of the fat cell of the adipose tissue to the net of blood capillaries is apparent on simple inspection. This relationship is even more apparent in the adenoid depots of embryonal fat in which the preadipose cells are seen to rest in honeycomb fashion, in the meshes of thin-walled blood channels. As globules of fat begin to be deposited and the adipose cells increase in size, the capillary net undergoes pressure and thus it becomes less prominent.

The polygonal nests of blood capillaries enmeshing the individual fat cell is of about 50-60 microns, approximately the size of a well-fed fat cell. The density of the blood channels increases as the fat cells become smaller and since under this condition the pericellular reticulum becomes also more prominent, this brings up the point whether the so-called pericellular reticulum is part of the wall of the fat cell or belongs to the wall of the enclosing blood capillary.

Gersh and Still[11] in adipose tissue fixed by freezing and drying have determined that the mean diameter of the capillaries is of six microns in fat-rich and of seven microns in fat-poor adipose tissue. They have also established that the mean surface area of capillaries per unit volume of fat (S/V) is 23.5 in well-developed fat, and 64.1 in lean fat tissue; and that the ratio of the surface of the capillary bed to the volume of tissue supplied by the vessels is 51.9 in fat-rich tissue and 222.2 in fat-poor tissue.

These determinations were made in adipose tissue of rats, but presumably the considerations emerging from these data can be extended to man. If so, for purposes of metabolism, the capillary bed of the adipose tissue is even richer than that of the striated muscle.

* * *

The amount of depot fat is the result of an equilibrium between fat mobilization and fat deposition. The balancing factors involve many explored and unexplored possibilities, including the role played by the sympathetic system.

Boeke[28] has clearly demonstrated bundles of neurofibrils, provided with delicate varicosities, and numerous ramifications which gently curve around the nucleus as well as the cell's wall. The knowledge that fat cells are provided with sympathetic fibers has led to some speculation on the mechanism underlying facial hemiatrophy, as being dependent from loss of control of sympathetic trophic fibers.[29]

Along the same line Beznak and Hasch[30] have shown that unilateral section of the splanchnic nerves in cats is followed by a marked increase of perirenal fat in the splanchnicotomized side. The pericardial fatty tissue, following extirpation of the cervical sympathetic fibers or of the stellate ganglion showed a similar behavior.

Although further investigation is desirable, all this seems to indicate that any deviation from the normal in the sympathetic nerve supply may interfere with mobilization as well as with deposition of fat.

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The Esophagus Rediscovered!

The esophagus is being rediscovered in the sense that "one discovers what existed before, but had remained unknown." Our basic tool in diagnosing disorders of the esophagus has been the x-ray, though the latter has definite limitations, especially in inflammatory and neuromuscular problems involving the esophagus. The rigid esophagoscope has contributed a great deal to our knowledge of and ability to diagnose esophageal abnormalities, but the use of the rigid instrument has been necessarily limited by requirements of technique and safety to the hands of relatively few endoscopists. The development of a satisfactory flexible esophagoscope has made diagnostic esophagoscopy as safe a procedure as diagnostic gastroscopy with the flexible gastroscope. Furthermore, the ease of examination with the flexible instrument is such that its use is becoming increasingly widespread among gastroenterologists who use it as readily and as safely as the flexible gastroscope, neither examination requiring an operating room or demanding any formidable technical handling. As a result, our diagnostic ability in and knowledge of diseases of the esophagus is constantly and rapidly improving. If we simply remember that heartburn is primarily an esophageal symptom and not a gastro-duodenal one, we immediately realize how common esophageal disorders are.

Recently, the development of methods for studying esophageal motility has improved to the point where a great deal of important new information about esophageal function has been and continues to be obtained. This approach is no longer primarily a research tool but has been very helpful clinically, as illustrated in the paper by Nagler and Spiro in this issue of the Journal. A careful reading of this paper will help us understand the symptoms in some common disorders of esophageal motility, thereby enabling us to diagnose and treat them more adequately. We learn why regurgitation of gastric contents into the esophagus takes place so easily in many patients. We will better understand the basic mechanism of achalasia, frequently called cardiospasm, though there is actually no such spasm involved.

Esophageal motility studies are particularly helpful in diffuse spasm of the distal esophagus, entirely different from achalasia, and characterized by enough substernal pain, as well as dysphagia and pyrosis, to make the differentiation from anginal pain quite difficult at times. The diagnosis of this type of spasm depends on esophageal motility studies and cannot be made by x-ray or esophagoscopy. There must be many patients with a presumptive diagnosis of angina, not proven by the usual studies, who really have diffuse spasm of the distal esophagus.

One more most helpful aspect of these relatively easily performed determinations of esophageal motility is in deciding whether or not many of the symptoms which we attribute to a hiatus hernia are actually due to it and in offering us help in prognosis after surgical repair of a hiatus hernia.

All in all, studies such as those outlined by Nagler and Spiro are really helping us to further "rediscover the esophagus."

S.D.K.

"Only For The State"

Word filtering out of Austria indicates all the Communist governments of Eastern Europe are cracking down hard on private medical practice.

This crackdown may seem far away, remote and of little real significance to the people of the United States.

But it will behoove us to do some rather sharp thinking about it, to the end that we may be constantly alert to safeguard ourselves—and our health—against a like fate, now or at any foreseeable future time.

With Russia setting the pace and the lead, few of the Iron Curtain countries have anything approaching medical and health freedoms left.

The doctors work for the state, not for the patients and for themselves.

In Czechoslovakia private dental practice has virtually disappeared. A decree of more than a year ago ordered the abolishment of private medical practice as of Jan. 1, 1959.

Romania's some 22,000 medical men were nationalized last year.

Because of the clamps put upon them some 3,300 doctors, dentists and veterinaries have fled East Germany to find freedom to practice as men and as individuals in West Germany.

Only some 254 of 1,135 doctors checked in Poland still have traces of a private practice left.

And so it goes down a long and doleful listing.

Now, we face no such immediate prospect here.

But the American patient cannot afford to stand passively by while allowing the medical men to do all the fighting.

For, in final analysis, the patient suffers with the doctor if, and when, state-medicine is the rule.

The patient, in fact, is the greater sufferer.

Great Britain's excursions into socialized medicine should drive that conclusion home to us—and set every patient up as a militant objector to any proposals that would dilute medical freedom of choice.

(From the New Haven Register, November 17, 1959)

Comment On "Anatomy Of Anxiety"

Man is indeed a troubled animal, and it is helpful to have his torments subject to Dr. Burr's thoughtful reflections.

Dr. Burr usefully reminds us that this restlessness and dis-ease—which today commonly bear such labels as frustration, conflict, and anxiety—is not a temporary condition brought on by certain accidents and circumstances of our times. Rather this seems to be built into man as intrinsic and seemingly inevitable parts of his make-up. The very characteristics—Dr. Burr speaks chiefly of the cortex—which provide man with his high capacities and even higher aspirations also allow for excrutiating torment. Whether or not Dr. Burr is right in the particulars of his interesting theory that the experience of anxiety is correlated with the neurological phenomenon of conflictful activity in the basal ganglia and the cortex, he is clearly in agreement with many thoughtful commentators on this general point. The anxieties of man—many of them—are not discrete and peripheral symptoms, easily to be excised but are somehow part and parcel of the very structures that make man what he is. All the simple and easy cures, whether offered in the name of medicine, education, religion, politics, economics, or some other authoritative discipline, have discovered that the symptoms are stubbornly rooted and that the cures themselves almost always produce undesirable and unexpected side effects. One cannot hope to deal with man's anxieties without a comprehensive and penetrating understanding of the very nature of man.

To this task, of course, thoughtful men of many generations have applied their intellectual vigor, working under the banner of various disciples of thought, including most notably those of philosophy and theology. Dr. Burr proposes that the powers of science be turned upon the problem of understanding the nature of man and especially the roots of his intrapersonal and interpersonal turmoil. This is, of course, not a unique proposal, and I share his hope that much of importance is to be learned from such consecrated scientific probing.

But science is not to be identified with the investigation of tangible and manipulable objects and matter. Science rather is a process of rigorous, controlled, systematic theory-building and theory-testing. The question has always to be raised as to what order of phenomena are the most fruitful raw material for any particular scientific investigation. Anxiety, ruptures of interpersonal relations, and the other torments of mankind are phenomena of experience and behavior. Undoubtedly there are neurological, chemical, and physical correlates of these experiences, and someday, long in the future, we will know precisely what they are. But to invoke our existing neurological knowledge does not seem to provide very powerful insights. Nor does there appear immediate prospect of greatly enhancing such knowledge to a radical degree. Indeed, a careful reading of Dr. Burr's paper suggests that it depends primarily upon extra-anatomical considerations which are read into and expressed in terms of brain anatomy, rather than letting firm knowledge of the brain generate illuminating deductions and derivations.

One need not disparage those scientists who choose to put their hopes and their labors into an increasingly refined probing of the structures and functions of the brain. On the other hand, there are alternative courses for scientific endeavor to take. Some are provided by psychology and other behavioral sciences which choose to deal with the experience and behavior itself. Problems of measurement, experiment, and theory-testing are indeed great as Dr. Burr points out. On the other hand, they are not insurmountable. Indeed, many important consistencies and regularities—"Natural Law"—in Dr. Burr's vocabulary—have already been established. The problems are different in kind, though perhaps no greater than similar problems encountered by the neuro-physiologist and neuro-anatomist. The problem of one is gaining access to his observations and the problem of the other is largely one of refining and making reliable his observations.

One of the important contributions of behavior sciences is in shedding illumination on one of the points Dr. Burr most emphasizes, namely individual differences. Given essentially similar structures, it is now possible to note in some detail and with some precision how varying experiences and circumstances can result in subsequently varying attitudes, behavior, and even in different patterns and intensities of anxiety. It is possible, for example, to trace quite carefully consistent and lawful relations between certain types of home and family experiences in childhood and subsequent experience of conflict and anxiety. In any particular circumstances, persons vary greatly in the amount of anxiety elicited, and this individual variation can be predicted with some degree of confidence on the basis of known previous experiences. Furthermore, the varying modes of response to and defense against the anxiety can also be predicted with some confidence.

Dr. Burr's confidence in science, therefore, seems well placed. But the very success of science raises new problems. Anatomical, physiological, and behavioral science already may well know many of the important natural laws involved in anxiety and the general range of torment of which Dr. Burr speaks. But of what use is such careful analytic knowledge? The problems of our living concern feeling and decision and acting, and how can mere knowledge and ideas affect these. Dr. Burr hopes that if we can feed the right ideas into the cortex, they will somehow exert a controlling influence and in this hope he is joined by many philosophers and others, including, by the way, Sigmund Freud. But there are still those basal ganglia exerting their primitive and, in many respects, primary influence on us. They have not necessarily recognized the sovereignty of the cortex for which we hope. I, for example, know full well many of the important conditions—let's summarize them with the label "love"—that I should provide my children if I want to make possible for them a less tormented and more creative and productive adult life. This I know and can specify with confidence and in detail. But I nevertheless find myself on occasion taking out on them—subtly to be sure, but effectively—my own antagonisms and irritations built up during the day or for that matter during a lifetime. I make demands and threats which I know with all too painful clarity are not in their best interest but are only serving my own needs. But my knowledge only serves to increase my torment as I recognize what I'm doing; it does not always affect or modify my behavior.

How can I have, as the theologians would say, the "grace" to do what I already know I ought to do? The primitive emotions, the basal ganglia, recognize some authority, if not always the authority of the cortex. As Dr. Burr points out, they recognize external authorities, in particular they respond to and are even modified by the emotional atmosphere in which a person lives. It is when I am experiencing demands and threats and antagonism that my primitive brain serves its important defensive function of setting up retaliatory and protective strategies, including the displaced counterattacks which my children experience as arbitrary harshness. On the other hand, there may be some occasions in which I can feel safe enough to respond spontaneously and freely to my children as I wish. But where in a world in which such defensive but disruptive reactions are in long chains, one generating another —where in such a world can I ever feel the safety and security and warmth which will convince my very alert basal ganglia to let down their protective disguises and armor? This is a question which has left many, including, for example, Sigmund Freud, in profound pessimism, even despair. A few of us are fortunate enough to find an occasional individual—perhaps a spouse, a clergyman, a family physician—who seem able to provide this kind of atmosphere for us. At another level the answer of some theologians is that if you penetrate deeply enough and candidly enough into the basic characteristics of this world, you find a fundamental affirmation and support. This may remain abstract and unconvincing to the primitive brain or it may—often through the mediation of another person (thus, the doctrine of the incarnation)—become a real and powerfully effective influence on one's life.

James E. Dittes

The "Silent" Coronary

From the time when a disease entity is first recognized to the time when its etiology, pathology and physiology is thoroughly understood its characteristics go through various transformations. At first the disease in its most pronounced form is recognized. Thus myocardial infarction when first described by Herrick[1] in 1912 in addition to other symptoms and signs, had a specific type of chest pain as a major characteristic. However, as recognition becomes general, earlier and modified forms begin to be described and one learns that many cases previously had escaped recognition. This is illustrated by poliomyelitis in which only the paralytic forms were first described but later 200 times more cases were found that were so mild that the diagnosis would have completely escaped the early observers. It could rightly be said that these cases are the "Silent" ones.

Since coronary artery disease has come to be associated with a special type of chest discomfort which directs the patient's and physician's attention to the heart as a probable seat of his trouble, it would be of utmost importance to the physician to know whether or not the special chest pain is a necessary feature of coronary heart disease or whether cases exist unbeknown either to the patient or the doctor, the so-called "silent" coronary. It is not surprising therefore that various observers should seek answers to this question through analyses of pathologically proven cases of myocardial infarction either by a study in pathology as Davis[2] did or by electrocardiographic means as Warner[3] did. These studies, however, were carried out on hospitalized patients. It is clear that some patients with mild symptoms or a typical manifestations of myocardial infarction might escape either diagnosis and hospitalization. Even patients with more than mild symptoms might escape recognition if they are hyposensitive and therefore less prone to complain about discomforts arising from whatever cause. It was Libman many years ago who called attention to the hyposensitive patient who goes on to ruptured appendix, a ruptured ulcer or a perforated gall-bladder before he is impelled to seek medical attention. This great encyclopedic physician trained his students to look for hyposensitivity in every patient by eliciting the patient's response to pressure on the stylo-hyoid process. Excessive responses to the same test led him to recognize hypersensitive individuals also, in whom the slightest discomfort was magnified into a severe pain.

Clearly the frequency of painless myocardial infarction cannot be accurately determined unless one studies all aspects of coronary artery disease as it occurs in the general population. For such a study in the Framingham, Massachusetts population we are indebted to Stokes and Dawber.[4] It soon became clear that a significant number of individuals developed electrocardiographic evidence of myocardial infarction without having felt or exhibited even mild or atypical symptoms of sufficient degree to become aware of them and to consult a physician. Such patients reported either no illness or experienced some symptoms which did not require medical care or consulted a physician with symptoms so mild that the physician himself did not recognize them as evidence of myocardial infarction.

Many interesting features were revealed by this study. At least 20 per cent of 73 myocardial infarction patients were clinically unrecognized though they showed electrocardiographic residua. If, however, half of the sudden deaths and the few cases that had neither characteristic symptoms nor electrocardiographic residua were added to this number we arrive at the astounding fact that one-third of all myocardial infarctions in a general population are unrecognized.

These authors point out what would appear obvious that the unrecognized infarcts are mild since such complications as shock, congestive heart failure and arrhythmias would in themselves lead the patient to seek medical care. Nevertheless sudden death is also a manifestation of a silent coronary.

The study points up the importance of electrocardiographic and other laboratory studies when attempting a differential diagnosis of a patient suffering with a mild precordial discomfort. The patient may be hyposensitive, he may have a "silent" coronary. Its recognition could lead to proper therapy that might avoid a more serious recurrence or even sudden death.

The authors unfortunately did not attempt a correlation between hyposensitivity of the patient and his failure to appreciate pain of infarction. What is really necessary is to relate sensitivity to pain and the response to infarction. The fact that silent infarcts lead in some cases to sudden death would seem to justify adequate treatment in all coronary cases mild as well as severe.

L.H.N.

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Pathology Of The Silent Coronary

What can the anatomic pathologist contribute to a discussion of the "Silent Coronary", a clinical syndrome?

There are a few pertinent observations on the size and development of infarcts which may shed some light on the subject. These are based on the assumption that symptoms of an acute infarct are due to stimuli from necrotic muscle tissue. Electrocardiographic changes in acute infarction are due to currents of injury from dead muscle and later to resulting scars.

Many of the old myocardial scars and fresh infarcts observed at autopsy are so small that it seems unlikely that there was enough necrotic tissue to produce symptoms in even the most sensitive individual. Yet such a lesion properly located may cause changes in the electrocardiogram.

Less obvious, but more important, is the gradual evolution of many infarcts which spread in small irregular "waves". First there is a little area of necrosis which starts to heal by organization; after a few days or weeks a neighboring area dies and starts to organize while the first is becoming fibrotic, and so on. Ultimately there may be a large scar, yet at no time was there enough necrotic tissue to produce symptoms. Random cardiograms might easily detect the acute or late changes.

It is apparent that the bulk of "silent coronaries" fall in one of these groups — the small or the slowly progressive lesion. Whether they require or will benefit from the usual therapy is a separate issue. As to the rapidly fatal "silent coronary" this is a sharply different problem. In most instances the "silence' 'is due to the extreme illness of the patient from the infarct or some other disease; in any event little can be done to prevent the death.

R. B.

Furadantin

Nitrofurantoin (Furadantin-Eaton) is an antibacterial drug recommended for oral use in the treatment of acute and chronic urinary-tract infections. It is by no means new; it merits review, however, because of its bacteriostatic and bactericidal effectiveness against a very wide range of both gram-positive and gram-negative organisms, its relative freedom from toxicity when used orally, and the fact that its use does not encourage the growth of resistant strains. These qualities give it a special clinical usefulness for those urinary-tract infections in which the sulfa drugs and antibiotics are not suitable.

Furadantin is active against a great variety of gram-positive cocci, including some resistant strains of Staphylococci, and against many gram-negative bacilli, including E. coli, Proteus species, Klebsiella pneumoniae (Friedlander's bacillus), and Aerobacter aerogenes. Most strains of Pseudomonas aeruginosa (B. pyocyaneus) are resistant to its action as are the tubercle bacillus, the spore-forming anaerobes (such as Clostridia), Rickettsia and many pathogenic fungi and viruses.

Furadantin is almost completely absorbed after oral administration, as indicated by the fact that about half of the dose is excreted in the urine, with only neglible amounts in the feces. Nevertheless, laboratory determinations have failed to show its presence in significant amounts in the blood. This characteristic makes oral dosage useless for systemic infections; the drug is primarily a urinary antiseptic, suppressing surface but not deep tissue infections. (To make the drug useful for systemic infection, the manufacturer developed an intravenous preparation containing Furadantin in polyethylene glycol as a solvent. While no untoward effects were evident at first, subsequently some of the patients receiving this preparation developed severe metabolic acidosis. This was attributed to the solvent, and the preparation has been withdrawn while a safer vehicle is sought.)

DOSAGE—In the treatment of acute urinary-tract infections, 50- to 100-mg. doses four times a day are recommended for adults. A. Welling, et al. (*J. Urology,* 77:773, 1957), showed that the 100-mg. dose is generally necessary only with resistant gram-positive organisms. Fifty-mg. doses appear to be just as effective for most other urinary infections, and the smaller doses are less likely to produce gastrointestinal irritation. If the response to the smaller dosage is inadequate, it can be increased. In many instances, 50-mg. doses only twice a day are sufficient to sterilize the urine. Treatment should be continued for at least three to seven days after the urine becomes sterile.

Furadantin not infrequently causes nausea and vomiting, especially with larger doses; reduction of dosage usually results in prompt alleviation of symptoms. In rare cases, Furadantin causes skin sensitization, leukopenia and hemolytic reactions, as well as diffuse erythematous maculo-papular eruptions. Hemolytic anemia from Furadantin therapy seems more prone to occur in Negro patients. Its administration is reported not to result in any marked decrease in intestinal bacterial count, change of flora or excessive multiplication of fungi.

USES OF FURADANTIN—Furadantin is promoted as the drug of first choice in urinary-tract infections. For acute urinary infections, it is a valuable addition to a physician's resources, ranking with sulfa drugs and broad-spectrum antibiotics. Furadantin is also valuable in preventing urinary infections in catheterized patients. For chronic infections, where there is urinary stasis, clinical results are often disappointing even when the responsible organism is sensitive to the drug used. Persistence of an infection in spite of normally adequate treatment suggests the presence of a stone, surgical or congenital anomaly, or a neurogenic cause of urinary stasis. Treatment of these conditions may be necessary before the infection can be controlled. Dr. Ernest Jawetz and his associates carefully studied 32 patients with chronic urinary-tract infections and concluded that a urinary antiseptic such as Furadantin " . . . no matter how strongly antibacterial its action in the urine or how long it is taken, is not likely to eradicate the infection in the interstitial tissue of the kidney in chronic pyelonephritis." (E. Jawetz, et al., *AMA Arch of Int. Med.,* 100:549, 1957.)

Furadantin may, however, have considerable value even in cases where bacteria cannot be eliminated from the urine permanently. Given a sensitive organism, its administration in low dosage (50 mg. twice a day) for prolonged periods may keep the urine sterile, and suppress symptoms; and it may possibly influence favorably the tissue infection in the urinary tract. Renal function may also improve during such therapy.

—Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.

Routine Bleeding And Coagulation Times

It is sad but true that many hospitals in Connecticut still require "routine" bleeding and clotting times before tonsillectomies and certain other procedures. As Dr. Louis Diamond pointed out so well at the September 30, 1959 session of the Clinical Congress in New Haven, these tests give both false assurance of security and false warnings of possible danger.

Such tests are *not* required by the Joint Commission on Accreditation—in fact Dr. Kenneth Babcock[1] says "the consensus of opinion seems to be that their value is very limited and even questionable."

The best safeguard against dangerous postoperative bleeding due to systemic disorders is a careful history relative to bleeding and bruising. If the history suggests such a disorder the whole battery of coagulation studies should be done, including venous coagulation time, clotting time of plasma and whole blood, prothrombin time and prothrombin consumption time, bleeding time, platelet count and fibrinolysins. Other tests may be indicated in some patients.

R.N.B.

Grace-New Haven Community Hospital Opens Psychiatry Unit

The Grace-New Haven Community Hospital will open a 24-bed Psychiatric Unit in January, 1960. It is intended to meet a long recognized community need for a satisfactory place to treat patients with emotional disturbances in a general hospital and to provide psychiatric diagnostic services using the Hospital's technical facilities and its personnel trained in all branches of medicine.

The first floor of the Tompkins Building has been completely rebuilt and refurnished to provide private, semi-private, and ward accommodations, and it includes a living, dining area and a well-equipped occupational therapy unit. Four air conditioned rooms will permit proper safeguards for the treatment of patients who are temporarily severely disturbed. Accommodations for 24 patients cannot fully meet the community's needs and only those patients will be accepted who are likely to benefit appreciably by a stay of several weeks, or who require diagnostic studies. Precise admission policies must await upon experience as the policies of hospitals in other cities do not, or will not necessarily, suit local conditions and needs.

Psychiatrists on the staff of the Grace-New Haven Community Hospital may attend and treat their patients in the Psychiatric Unit. Any physician or agency may refer patients to the Psychiatric Unit who will be under the care of the full-time psychiatric staff of the University Service.

The service will be in the charge of Dr. Thomas Detre, Assistant Professor of Psychiatry. It will be integrated with the other psychiatric services of the Yale Medical Center—the out-patient clinic, the psychiatric consultation services, and the Yale Psychiatric Institute—as well as with the medical, surgical, and laboratory facilities of the Medical Center. Doctor Detre will be assisted by two resident psychiatrists, two social workers, a psychologist, an occupational therapist, and a carefully selected staff of nurses and aides.

While it is believed that the new Psychiatric Unit will meet a pressing need, members of the community, professional and nonprofessional, should recognize the limitations of the service which constitutes but one more step towards providing adequate community care for patients with psychiatric illnesses.

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[1] Hospitals *32,* 24, June 16, 1958.

THE PRESIDENT'S PAGE

Facts and fancies regarding the Smathers-Keogh-Simpson Bill H.R. 10 have been advanced respectively by the proponents and opponents of this legislative measure. The medical profession and other self-employed groups have long since requested their legislators to enact this measure to eliminate the inequity in our tax regulations.

Though H.R. 10 was acted upon favorably by the U.S. House of Representatives and passed almost unanimously on March 16, 1959, this bill might still encounter a few difficult hurdles which must be successfully cleared before it can become law.

The bill is presently under close scrutiny and consideration by the Senate Finance Committee. It is understood that this committee is tax-dollar conscious. The self-employed groups along with other Americans are well pleased that this consciousness has been aroused, but in the interest of equity and justice in tax matters, it is genuinely desired that a "penny-wise and pound-foolish" action will not be taken by the Committee.

On June 17, 1959, the Assistant to the Secretary, U.S. Treasury Department, is credited with the following statement, *"The Treasury recognizes that the present law does not give self-employed persons tax treatment for their retirement savings comparable to that now accorded to employees covered by employer financed pension plans."*

The above statement of fact should eliminate all the foolish fancies advanced by the opponents of H.R. 10, such as, "It does not cover the employees of the self-employed." Obviously it doesn't for the simple reason that such employees already stand to benefit under existing legislation providing for deferment of taxes on their employers' contributions to qualified pension plans.

In addition to the employers' contribution of a certain percentage of current compensation in these pension plans, we should include all the other employee benefits—all the "plus signs"—the cost of group life insurance, profit sharing plans, savings plans, accident and health protection and any of the other so-called "fringe benefits." Consequently a ratio of probably 15 per cent for the total tax deferment would appear to be a privilege enjoyed by employed individuals and this is certainly not at all unusual. Therefore a 10 per cent ceiling for self-employed persons and a dollar ceiling of $2,500 seems reasonable and fitting.

Furthermore, according to experience, a period of years would pass in the vast majority of instances of the self-employed before this ceiling would, if ever, be reached. The first year budgetary impact on Federal revenues therefore would be but a fraction of any advance estimate.

There are many erroneous concepts which have seriously impeded the enactment of this bill. The time has come when the self-employed farmer, small business man, physician and other professional men and women receive tax treatment for their retirement savings comparable to that now accorded other groups.

Ellwood C. Weise, Sr., m.d.

Professor Ira V. Hiscock Retires

Professor Ira V. Hiscock, Anna M. R. Lauder Professor of Public Health since 1945, a member of the Yale faculty for forty years and Chairman of the Public Health Department, Yale Medical School will retire on June 30, 1960. He will have a leave of absence beginning January 1, 1960 to become Carnegie Visiting Professor of Public Health at the University of Hawaii.

Dr. Hiscock who has recently returned from a three month tour in Asia under a Yale-in-China auspices, will also conduct a teaching course in public health for doctors, nurses and engineers of the Near and Far East.

Dr. Hiscock who has a world wide reputation as a public health specialist has served as President of the National Health Council, the American Public Health Association, the Association of Schools of Public Health of the United States and Canada and the National Society for the Prevention of Blindness.

He has been the recipient of the C.-E.A. Winslow Award of the Connecticut Public Health Association, the Lemuel Shattuck Award of the Massachusetts Public Health Association, the American Cancer Society Award and an honorary Doctor of Science degree from Wesleyan University.

Dr. Hiscock is a former President of the New Haven Council of Social Agencies and the New Haven Community Chest, a Commissioner of the New Haven Board of Health and a member of the Connecticut Public Health Council.

Dr. Hiscock is a veteran of both World Wars. He was awarded the Legion of Merit for his public health work in Italy and Africa and retired from the Army in 1952 with the rank of Colonel.

Dr. Hiscock's departure from the New Haven scene where he has served the local community, the state, the nation as well as the world by his teaching, his expert advice, as well as his active participation in so many organizations devoted to the public welfare leaves a void which will not be easily filled.

The best wishes of the many members of the medical profession who have experienced the helpfulness of Dr. Hiscock in their activities go with him in his future work and with the hope that at some time in the future he will return to the place for which he has done so much.

FROM THE GENERAL MANAGER'S OFFICE

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HOUSE OF DELEGATES SEMI-ANNUAL MEETING

December 9, 1959

Summary of Actions

1. In response to a request for direction with respect to CMS, Inc., made by the Chairman of the Council, the following recommendations were approved:

"In the brief time allotted to it for discussion, the Reference Committee feels that the amended 1948 principle laid down at the Special Meeting of the House of Delegates, March 25, 1958, be adhered to." This amended principle reads: "It is recognized that the inclusive income level defining the area within which the program (CMS) will provide complete service coverage, should be as to cover not more than one half of the working population and their families."

"Secondly, that any new CMS contract should be at least as broad in its coverage as that now offered by the Preferred Contract."

2. Approved the 1960 Budget. Dues will remain at $33 a year.

3. Adopted the following Resolution:

"RESOLVED: That the President of the Connecticut State Medical Society appoint a committee to explore the possibility of setting up a fund for the purpose of assisting indigent and permanently disabled members of the Society, and their dependent minor children in case of death."

Dr. Ellwood C. Weise, Sr., president, appointed the following committee: John F. Nolan, Bridgeport, Chairman; Reginald E. Gillson, New Haven; Samuel H. Cohn, Hartford; Nicholas T. Phillips, Norwich; and Harold E. Speight, Middletown.

4. Adopted the following Resolution re: Chiropodists:

WHEREAS: The State Commissioner of Health, Franklin M. Foote, M.D., has this day informed the Connecticut State Medical Society that the chiropodists of this state, who are not practitioners of the healing arts, are seeking authorization to prescribe oral medications and have approached the Assistant Attorney General on this subject, and

WHEREAS: The prescribing of all systemic medications, including the antibiotics, carries with it a continuing responsibility on the part of the prescriber as to the indications for use, dosage, length of administration and, particularly, the recognition and management of undesirable or even hazardous side-effects of such medications, and

WHEREAS: The prescribing of all systemic medications has intentionally been restricted by law to licensed practitioners of the healing arts, and

WHEREAS: There is becoming evident a progressive tendency for certain individuals who are not licensed practitioners of the healing arts to prescribe medications, thereby exceeding the intent of the limitations placed upon them by state and federal law, and

WHEREAS: Such practices are actually unlawful, potentially dangerous and otherwise against the best interests of the public health, therefore be it

RESOLVED: That the Connecticut State Medical Society protests against these unlawful and dangerous practices and calls upon the responsible agencies and individuals in the government of the State of Connecticut to put an end to, and prohibit the continuance of, such practices, and be it further

RESOLVED: That this protest be transmitted to those responsible State agencies and individuals through the State Commissioner of Health.

5. Adopted the following Resolution re: Medical Care of the Needy:

RESOLVED: That the House of Delegates of the Connecticut State Medical Society, at its semi-annual meeting on December 9, 1959, goes on record as approving fully the Resolution of the Boards of Trustees of the American Hospital Association and the American Medical Association, dated December 3, 1959, with respect to medical care of the needy—especially the aged needy, and be it further

RESOLVED: That the General Manager of the Society be instructed to forward a copy of this Resolution of approval to the Board of Trustees of the American Hospital Association and to the Board of Trustees of the American Medical Association, and be it further

RESOLVED: That this Resolution be publicized and circularized, through the Society's Public Relations Director, including the mailing of copies to those members of Congress who represent the State of Connecticut.

Text of Resolution

As approved by the Board of Trustees of the American Hospital Association and the Board of Trustees of the American Medical Association.

WHEREAS: The provision of health care to the indigent or near indigent is primarily a community responsibility, and

WHEREAS: This responsibility is not being met in many areas because of inadequate financing or poorly planned health care programs, and

WHEREAS: Such proposals as HR 4700 (Forand Bill) are not designed especially to assist the needy, since they apply to all Social Security beneficiaries and exclude the majority of needy persons who are not eligible for Social Security benefits, therefore be it

RESOLVED: That the Boards of Trustees of the American Hospital Association and the American Medical Association do hereby resolve to mobilize their full resources to accelerate the Development of adequately financed health care programs for needy persons—especially the aged needy—and to stimulate our state and local components to work with local government toward adequate financing of high quality health care for the needy, supported by all available community resources and necessary tax funds. The Boards of Trustees recognize the effective medical care programs for needy persons already established in some states and local communities, but have taken this joint action because of their conviction that these programs deserve increased support and stimulation.

6. Adopted the following Motion re: Financing the Opinion Survey and Relative Value Study.

"That a one year assessment of $5 be placed upon each dues paying member of the Society and that any balance of money required to finance these projects be paid out of the Society's reserve funds."

7. Adopted the following Resolution re: AMEF "That the voluntary dues increase of $15 per member of the Society to AMEF, approved for the year 1959, be continued in 1960."

8. Voted to amend the by-laws to delete the elective office of "Executive Secretary" and to retain the elective office of "Secretary," as required under the Charter. (Detailed amendments published in "Connecticut Medicine"—October, 1959)

9. Voted to confirm the following changes in Standing Committees, approved in the interim by the Council:

Committee on Hospitals: Charles W. Chace, Middletown, to replace Michael S. Shea, New Haven, resigned.

Committee on Industrial Health: Roger G. Conant, Hartford, to replace William M. Stahl, Jr., Danbury, resigned.

Committe on Medical Education and Licensure: Joseph A. Fiorito, New Haven, to replace Carl E. Johnson, New Haven, resigned, to complete term expiring 1961, and to recommend to the Governor, the appointment of Dr. Fiorito to complete Dr. Johnson's unexpired term on the Connecticut Medical Examining Board.

Committee on Public Health: Robert H. Green, New Haven, to replace Robert R. Keeney, Manchester, resigned.

10. Voted to approve the establishment of a Section on Allergy.

11. Accepted several reports of officers which will be published in some detail in subsequent issues of the Journal.

COUNCIL MEETING

Thursday, November 19, 1959

A regular monthly meeting of the Council was called to order by the Chairman, Dr. Feeney, at 2:30 P.M. on Thursday, November 19, 1959. Present in addition to the Chairman were Drs. Weise, Gallivan, Goldberg, Richards, O'Connor, Cullen, Scully, Gens, Cornwell, Kennedy, Blodinger, Murray, Gilman, Eddy, Pollock, Rentsch, Phillips, Purnell and Chartier. Absent were Drs. Carter, Davis, Buckley, Schiavetti, Grendon, Gardner.

ACCEPTANCE OF MINUTES. It was VOTED to approve the printed minutes of the meeting of October 28, 1959.

COMMITTEE ON INDUSTRIAL HEALTH. On the recommendation of its Chairman, it was VOTED to appoint Roger G. Conant, Hartford, as a member of the Committee on Industrial Health.

UNITED STATES PHARMACOPEAL CONVENTION, INC. After considerable discussion of the matter, it was VOTED *not* to send a representative of the Society to this Convention.

ANNUAL BUDGET—1960. Dr. Goldberg, Treasurer, reported for the Budget Committee and submitted the 1960 Budget as prepared by the Committee. Varous items were explained in detail and, after a comprehensive review, it was VOTED to approve the budget, as submitted, and to transmit it to the House of Delegates on December 9, 1959 for approval.

There was agreement that the $1,500 allotted to the Committee on National Legislation would be available for general legislative activity rather than strictly for committee use.

CANCER COORDINATING COMMITTEE. It was VOTED to appropriate an additional $50 to the 1959 budget of this committee because the present budget is almost depleted.

CHRISTMAS BONUSES. It was VOTED to authorize payment of usual Christmas bonuses to qualified employees of the Society.

CMS. Drs. Middlebrook, Fincke, Russell, Archambault, Polito, Clarke, Dean and Blodinger, physician members of the CMS Board, joined the Council for a general discussion of matters pertaining to CMS. The discussions covered areas of clarification of certain unilateral and joint actions, ways and means of improving communications and liaison between all concerned, methods by which progress in contract development might be expedited and the like. There was general agreement that this joint meeting between the Council and the Society's representatives on the CMS Board had been fruitful and that it should be planned to hold such meetings from time to time in the future. It was felt that in this way there would be better general understanding of the whole picture and that these meetings would not intrude upon, or reduplicate the deliberations of, more specialized bodies of both organizations.

Dr. Feeney then read a letter from Dr. Louis E. Garston, President of the Section on Dermatology, which voiced a number of objections of the Section (through a letter to Dr. Allan J. Ryan, Chairman of the CMS Medical Advisory Committee), to certain policy-planning of the Medical Advisory Committee in regard to dermatological and related procedures. It was VOTED that the Chairman, with whatever professional assistance he might require, meet with Dr. Garston and representatives of the Section for a preliminary discussion of these matters, and make such recommendations in this matter as may be considered appropriate.

The following matter was considered at some length:

At a special meeting of the New London County Medical Association on November 12, 1959, called for the purpose of discussing the Forand Bill, concern was expressed that whereas, in other states, Blue Cross is cooperating closely with medical societies in arranging for individuals over 65 years of age to enroll in the hospital plan and whereas our Blue Shield organization, CMS, has made individual enrollment in the surgical-medical plan possible to people of all ages, Connecticut Blue Cross has not as yet reported any progress in this important area. It was felt by the some 55 doctors at the meeting that Connecticut Blue Cross should be approached on this matter, despite the fact that approximately half the over-65 population of the state are members via previous employment. Blue Cross, it was said, has not had an "open enrollment" for some ten years.

Thereafter, it was VOTED that the Council communicate with the Board of Connecticut Blue Cross, inquiring as to any plans which that organization may be making to provide coverage to those over 65 years of age, who are not presently enrolled as Blue Cross members, and to inform the Board that the Council believes such planning is desirable and in keeping with the trend which has been established by so many of the voluntary health care agencies.

COUNCIL OF NEW ENGLAND STATE MEDICAL SOCIETIES. It was VOTED *not* to reimburse members of the Society, other than official delegates, for expenses incurred in attending the meeting of the New England Council held in Boston on November 4, 1959. Provision has not been made for such reimbursement.

OPINION SURVEY AND RELATIVE VALUE STUDY. It was VOTED to ask a representative of the firm of Rogers, Slade and Hill to be present at the semi-annual meeting of the House of Delegates on December 9, 1959 for the purpose of discussing and clarifying matters pertaining to the conducting of these surveys by that concern.

SECTION ON ALLERGY. A letter, with attachments, was submitted to the Council by Dr. Marvin Mogil, Secretary of the Connecticut Allergy Society. Review of these materials indicated that a roster and a set of by-laws providing for membership requirements, election of officers, meetings, etc. had been submitted in proper form for the establishment of a Section on Allergy of the Connecticut State Medical Society, accompanied by a request that approval be granted for its establishment. It was VOTED to approve this request and to transmit it to the House of Delegates for consideration and action on December 9, 1959.

CONFERENCE COMMITTEE WITH STATE BAR ASSOCIATION. Dr. Peter V. C. Dingman, Chairman, submitted a letter outlining the steps being taken by the committee to foster better inter-professional relationships between members of the Bar and of the medical profession. It was VOTED that the Council indicate approval of the work of this committee thus far, and encouragement to continue the program as outlined.

REPORT ON LEGISLATIVE ACTIVITIES. Drs. Feeney, Weise and Richards and other members of the Council reported on the progress which is being made by the State Society and the County and City organizations in the development of programs of professional legislative education, legislative communications, congressional contacts, etc. The reports suggest that our members are alert or are being alerted to the need for furthering these programs, and that proper and effective steps are being taken to develop and carry them out.

ELECTION OF STUDENT MEMBERS. Seven student members were elected. (List appears at end of minutes.)

COMMITTEE ON PUBLIC HEALTH. At the suggestion of William A. Wilson, Chairman, it was VOTED to appoint Robert H. Green, New Haven as a member of the Committee, and it was further VOTED to appoint Edward M. Cohart, New Haven, as a consultant to the Committee to replace Ira V. Hiscock, New Haven, resigned.

CONNECTICUT MEDICAL EXAMINING BOARD. Notification was received that Carl E. Johnson, New Haven, obstetrical-gynecological member of the Board, has submitted his resignation from the Board to Governor Ribicoff. It is presumed that the Governor has or will accept Dr. Johnson's resignation. At the request of the Board (majority recommendation), it was VOTED that the President of the Society recommend to the Governor the appointment of Joseph A. Fiorito, New Haven, to complete Dr. Johnson's unexpired term on the Board. It was further VOTED to appoint Dr. Fiorito as a member of the Committee on Medical Education and Licensure to complete Dr. Johnson's unexpired term. An additional majority recommendation of the Medical Examining Board that Dr. Fiorito also be nominated to the Board and to the Committee on Medical Education and Licensure for the five year term 1961-1965, is to be referred to the Nominating Committee.

DATE OF NEXT MEETING. It was VOTED that the next meeting will be held on Wednesday, January 6, 1960.

Student Members

Elected November 19, 1959

Robert W. Ferraro, Waterbury—Creighton School of Medicine, Class of 1963.

Robert C. Gallo, Waterbury—Jefferson Medical College, Class of 1963.

Alexander R. Gaudio, New Haven—Yale University School of Medicine, Class of 1963.

Thomas M. Kurti, North Woodbury—McGill Faculty of Medicine, Class of 1963.

Charles S. Mirabile, Jr., Farmington—McGill Faculty of Medicine, Class of 1963.

Raymond E. Sullivan, Waterbury—Georgetown University School of Medicine, Class of 1963.

Peter G. Weiner, West Hartford—Yale University School of Medicine, Class of 1963.

Meetings Held in December

1	Executive Committee of the Pediatric Section
2	Advisory Committee on Nutrition
3	Advisory Committee on Maternal and Child Health Services
9	Semi-annual Meeting of House of Delegates Committee on Hospitals Committee on Relative Value Study
10	Committee on Public Health Committee on Veterans Medical Care
15	CMS-CSMS Joint Liaison Committee
16	Committee on Maternal Mortality & Morbidity Advisory Committee to Commissioners of Welfare and of Finance and Control

The Society's Placement Service is in receipt of the following:

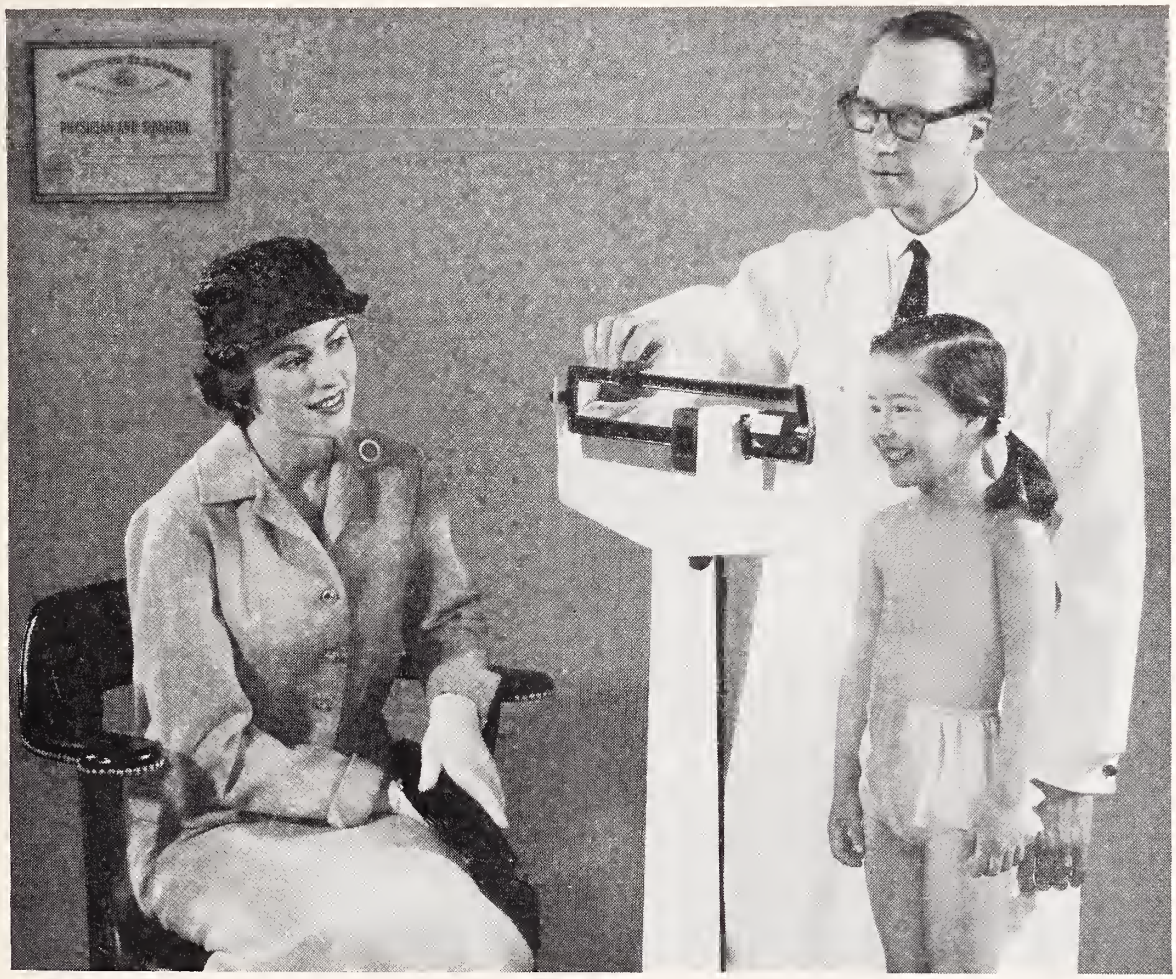
PLACEMENT WANTED

CORRECTION: Please note that in the CONNECTICUT MEDICINE for November we noted that Dr. Friedrich R. Behringer's speciality was Internal Medicine and it should read Obstetrics and Gynecology.

PLACEMENT OPPORTUNITIES

Salaried position with the State Department of Health. Wanted an Industrial Physician to assist in the clinic for employees. For further information communicate with the Executive Secretary's Office, 160 St. Ronan Street, New Haven, Conn.

WANTED: Psychiatrist, salary to $15,000. State minimum security correctional facility in highly desirable area. Write Chief Medical Officer, California Men's Colony, Los Padres, California.



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One of the most convincing evidences of the anabolic activity of Nilevar, brand of norethandrolone, has been its ability to improve appetite and increase weight in poorly nourished, underweight children.

A highly important feature of the weight gain thus produced is that it is not ordinarily manifested by deposition of fat but as muscle tissue resulting from the protein anabolism induced by Nilevar.

Anorexia and "Weight Lag" Study—Brown, Libo and Nussbaum have reported* consistent and definite increases in rate of weight gain in eighty-six patients, ranging in age from 7 weeks to 15½ years. This beneficial action of Nilevar was observed in the patients with organic and traumatic disorders as well as those whose only complaints were poor appetite and/or persistent failure to gain weight.

In this study, the weight gained was not lost after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

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*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

Special Notices

HARTFORD HOSPITAL

Saturday Morning 11 O'Clock Guest Speakers

January 2	No Clinic.
January 9	Christopher J. Duncan, M.D., Associate Professor of Gynecology, Harvard Medical School. Subject: 10:00-11:00 A.M. Vulvectomy 11:00 A.M. Carcinoma of the Ovary
January 16	Currier McEwen, M.D., Professor of Preventative Medicine and Public Health, New York University. Subject: 11:00 A.M. Recent Developments in Rheumatic Disorders
January 23	W. E. Knox, M.D., Assistant Professor of Biological Chemistry, Harvard Medical School. Subject: Heredity and the Enzymes
January 30	Warren H. Cole, M.D., Professor of Surgery, University of Illinois. 9:00 Surgical Grand Rounds, Amphitheater 10:00 Sugical Ward Rounds 11:00 Subject: Current Concepts of Diseases of the Biliary Tract
February 6	Ralph Adams, M.D., Wolfeboro, New Hampshire. 9:00 Subject: Postoperative Infections 11:00 Subject: Infections in the Hospital Environment
February 13	David Seligson, M.D., Associate Professor of Medicine, Yale University School of Medicine. Subject: The Clinical Laboratory and Clinical Practice
February 20	Eugene Spitz, M.D., Neurosurgeon, Children's Hospital, Philadelphia, Pennsylvania Subject: The Treatment of Hydrocephalus
February 27	Benjamin Spector, M.D., Professor of Bioanatomy and History of Medicine, Tufts Medical School. Subject: The History of Medicine as a Background for Modern Medical Practice

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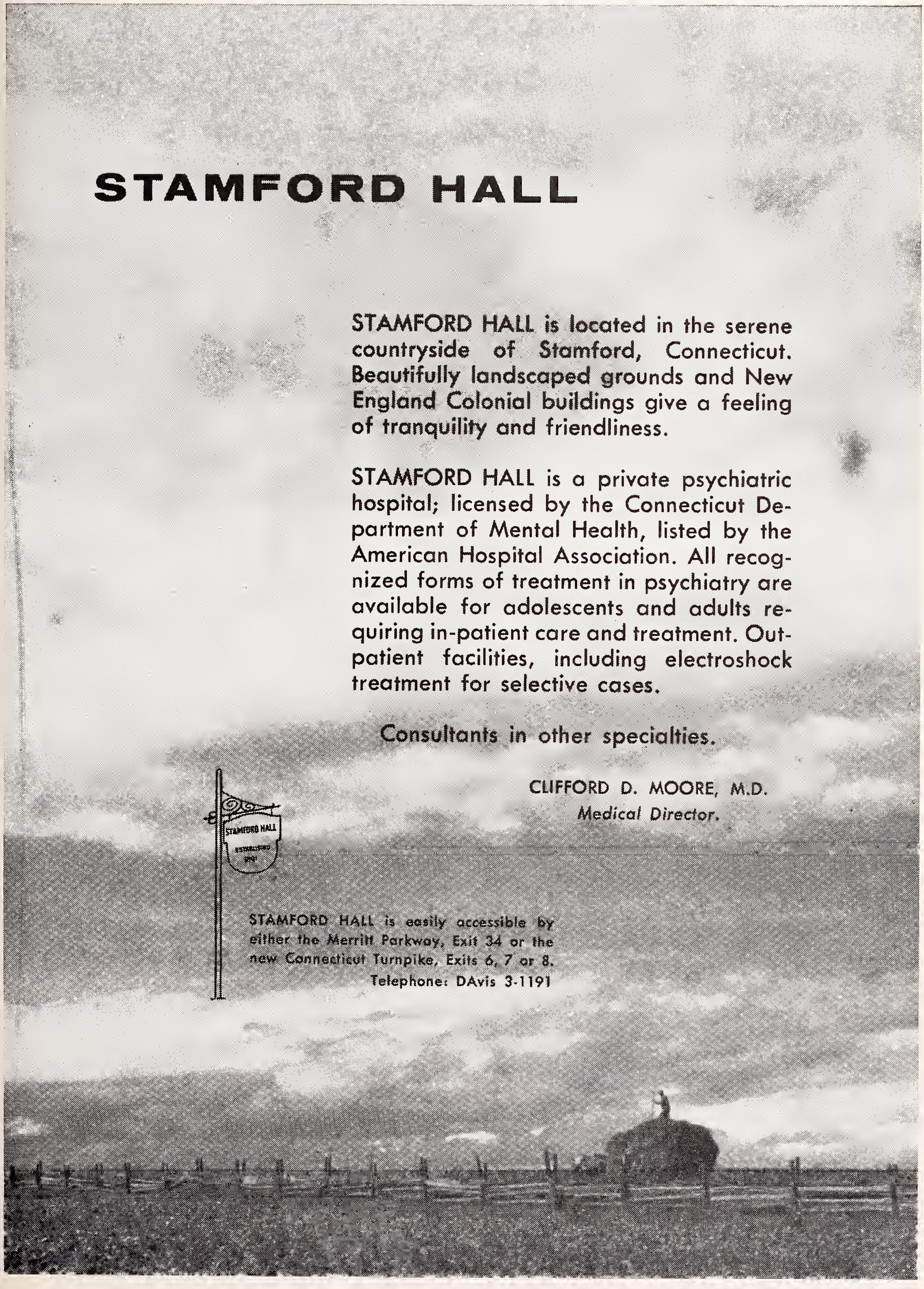

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STAMFORD HALL is a private psychiatric hospital; licensed by the Connecticut Department of Mental Health, listed by the American Hospital Association. All recognized forms of treatment in psychiatry are available for adolescents and adults requiring in-patient care and treatment. Outpatient facilities, including electroshock treatment for selective cases.

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Mrs. Walter Nelson, Cromwell

President-Elect
Mrs. Morton Arnold, Windham Center

First Vice-President
Mrs. John D. O'Connell, West Hartford

Second Vice-President
Mrs. J. Henry Kott, Torrington

Recording Secretary
Mrs. Saul Karpel, New London

Corresponding Secretary
Mrs. Louis Soreff, East Hampton

Treasurer
Mrs. Fritz Meyer, Bridgeport

1959-1960 Nominating Committee

The following members of the Auxiliary were elected members of the 1959-1960 nominating committee at the semi-annual meeting on October 20th.

Mrs. Edwin R. Connors of Bridgeport
Mrs. George Rosenbaum of West Hartford
Mrs. Isadore Goldberg of Torrington
Mrs. Norman H. Gardner of East Hampton
Mrs. Arnold Baskin of Hamden
Mrs. Sawyer Medbury of Windham Center
Mrs. E. Roland Hill of Mystic, chairman

This committee will present a slate of officers for election at the annual meeting in April, 1960. Also, at this meeting the members of the Auxiliary will elect the nominating committee for the following year according to the revisions of the By-laws passed at the annual meeting in April, 1959 and effective at the close of the semi-annual meeting of last October 20.

State Board Meeting

The Board of the Woman's Auxiliary to the Connecticut State Medical Society met in Hamden on November 30th. At that time various committees reported the following results of their work.

A.M.E.F.—Mrs. Wight, chairman reported $467.32 collected to date from three counties with other counties reporting plans for later collections.

Para-medical Careers Recruitment—Mrs. Allen chairman referred the membership to an article which appeared on page 668 of the October issue of Connecticut Medicine. This article carries an explanation of the Connecticut Health Careers program. The first Paramedical Careers Scholarship Fund in Connecticut has been established by Fairfield County.

Legislation—Mrs. Irving Krall, co-chairman reported that more information has been received on the Forand Bill and the counties will be contacted when further urgent action is required.

Editor—Mrs. Tisher, editor notified the Board that postal zone numbers are now required on addresses for residents in various towns and cities in the state. It will greatly facilitate the mailing of future issues of the *Quarterly* if all auxiliary members having zone numbers will so notify the membership chairman of her county. February 1, 1960 is that deadline for material for the next issue.

New London County—Mrs. Dyer, president reported that two $300 scholarships have been granted to nursing students. A bridge and food sale held recently netted $413.01.

New Haven County—Mrs. Van Leuvan, president reported a profit of $902 on their theatre party.

Windham County—Mrs. Jones, president outlined the program for high school students put on by the Para-medical Careers recruitment committee in Putnam on November 5.

Hartford County reported a successful dance on November 7.

Middlesex County—Mrs. Gardner announced that her county had honored one of their charter members, Mrs. Carl Harvey, at their last regular meeting.

Hospitality—Mrs. Buckley announced that the annual meeting of the state auxiliary will be held on April 27, 1960 at the New Haven Country Club. Details of the meeting will be given at a later date.

Mutual of Omaha

pays more than one million dollars in benefits to Connecticut policyholders

That's the record for 1958. Mutual of Omaha cash benefit payments to Connecticut policyholders last year amounted to $1,389,930.72.

This is a record payment, but Mutual of Omaha is continually setting records. It's the first company to pay out more than ONE BILLION DOLLARS in health and accident benefits in its first fifty years. More than 75 percent of that amount was paid out in the last ten years. Mutual of Omaha also pioneered the Lifetime Benefits feature of Income Protection Insurance, a feature that has helped thousands of families with cash every month during total disability.

Whatever your need . . . whatever your age . . . there's a sound Mutual of Omaha plan of hospital, surgical, and income protection insurance exactly right for you, and for your patients. More than ever, it pays to be protected by Mutual of Omaha, largest organization of its kind in the world. For information on dependable hospital, surgical, and income protection insurance contact:

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Plan For Statistical Study Of Perinatal Mortality

The Committee on Maternal and Child Care of the Council on Medical Service of the A.M.A. has been making a determined effort to standardize study of newborn death and illness. In December of 1957, a regional all day meeting was held in Philadelphia attended by representatives of all the New England states plus Pennsylvania, New Jersey, Delaware, Ohio, and the District of Columbia. The Connecticut State Medical Society's Committee on Perinatal Morbidity was represented as well as other vitally interested people in the state—10 people in all from Connecticut attended. A second meeting was held in the mid-western states in March, 1958. A third meeting of representatives of various vitally concerned national groups met in July, 1958, and on a joint basis, a remarkably fine report has come out of all this entitled "A Guide for the Study of Perinatal Mortality and Morbidity." Any interested physician may obtain a copy by writing to the A.M.A., and you are urged to do so. Your Connecticut State Committee also has extra copies which we will be glad to distribute as long as our supply lasts.

The Connecticut State Committee wishes to emphasize through this first communication some of the basic and vitally important aspects of this report. The National Committee had two points of emphasis; first, the objective and purposes of perinatal study, and second, the terminology. The objective is quoted verbatim: The objective of perinatal mortality and morbidity studies is to improve the production of normal human beings. The elimination of deaths and damage during the process of reproduction is the ideal for which we should strive. In working toward the objective with this in mind, all individuals and committees should rigidly and courteously adhere to scientific and ethical principles.

As to terminology, certain groups may be more detailed in their study than others and may make more minute break-downs on their statistics, but the National Committee, and your State Committee, feel that a basic plan such as outlined below, will prove fruitful in comparing results, not only locally but nationally as well.

* * *

The perinatal period is defined as that period in the existence of a fetus or newborn occurring before, during, and soon after birth. Mortality, or morbidity, occurring during that period is our focus of study.

Perinatal Period I will begin with deaths of fetuses weighing 1,001 grams (28 weeks gestation) and include deaths of infants occurring in the first seven days of life.

Perinatal Period II for more inclusive study (*and the recommended method of the two*) will begin with deaths of fetuses weighing 501 grams or more (20 weeks gestation) and include deaths of infant occurring in the first 28 days of life (the full neonatal period).

Subdivisions of the above by certain hospitals or groups interested in studying the problem is, of course, commendable, but *all* data for *all* hospitals should be compiled in such a fashion as to make reporting under one or the other above groups possible.

Fetal deaths should be reported according to weight, and subdivided according to antepartum (fetuses dying before delivery) and intrapartum (fetuses dying during delivery). These classifications are further subdivided into the following minimum birth weight groupings:

1. Perinatal Period I
   a. 1,001 through 2,500 grams
   b. Over 2,500 grams
2. Perinatal Period II
   a. 501 through 1,000 grams
   b. 1,001 through 2,500 grams
   c. Over 2,500 grams

Neonatal Deaths

1. First week, under seven days. If you are reporting in Perinatal Period I, these are the only deaths you report. They are divided by weight groups into:
   a. 501 through 1,000 grams
   b. 1,001 through 2,500 grams
   c. Over 2,500 grams
2. Post hebdomadal (second, third, and fourth weeks). In Perinatal Groups II, the weight of the infant is recorded in the same groups as above.
   a. 501 through 1,000 grams
   b. 1,001 through 2,500 grams
   c. Over 2,500 grams

Subsequent communications in this section will deal with suggestions from the national committee on the set-up and functions of the local hospital committees. Each hospital in the state has received a letter asking if they have a local committee, and the name of the chairman. The state group favors the formation of a county committee, which can be much more intimately acquainted with area problems. Your state group plans also to institute again a series of reports on representative cases of perinatal morbidity and mortality.

This article is submitted by the State Committee on Maternal and Child Welfare.

Effective relief in rheumatic disorders

Sterazolidin® capsules **Geigy**

prednisone-phenylbutazone Geigy

with less risk of disturbing hormonal balance

In the treatment of the rheumatic disorders new Sterazolidin provides a method of limiting the gravest danger inherent in steroid therapy... hypercortisonism arising from excessive dosage.

Repeatedly it has been shown that the addition of low dosage of Butazolidin sharply reduces hormone requirement.[1-4] Sterazolidin is a combination of prednisone (1.25 mg.) and Butazolidin (50 mg.) which provides, in the majority of cases, consistent relief at a stable uniform maintenance dosage significantly below the level at which serious hormonal imbalance is likely to occur.

Sterazolidin® (prednisone-phenylbutazone Geigy). Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg. and homatropine methylbromide 1.25 mg.

1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

Geigy, Ardsley, New York

03859

Around The State

New Auditorium For Yale Medical School

Yale University has announced a gift of $591,000 from the Commonwealth Fund to construct a 449-seat auditorium at the Yale School of Medicine.

The new auditorium will probably be completed by January 1, 1961.

The building will be named the Mary S. Harkness Memorial Auditorium after the wife of the late Edward S. Harkness, Yale '97, one of the University's greatest benefactors and the man who was President of the Commonwealth Fund until his death in 1940.

Site for the Auditorium will be in a courtyard of the Sterling Hall of Medicine and the entrance will be through the Hall's main lobby.

The auditorium will be used for assemblies, lectures, demonstrations, and conferences, not only for local doctors and students, but also for regional and national medical meetings.

The main floor will seat 310 while the gallery will seat 139.

New Haven County

Rudolph A. Damiani of Waterbury has officially assumed the post of president of the Connecticut Academy of General Practice. He was installed at the annual meeting in November, 1959. Dr. Harold VonGlahn of Old Lyme was elected president-elect. Other new officers include treasurer, Peter J. Scarfarello, Hartford, secretary, D. Norman Markley, Hartford and James J. Murphy, Danbury, a three year member of the board of directors.

Two delegates to the national convention and house of delegates of the academy are Dr. Scafarello and Dr. Edwin F. Trautman, both past presidents of the state group.

John M. Monacella of Windsor, retiring secretary and Edwin F. Trautman were presented academy certificates of appreciation for their services.

Hartford County

Donald W. Morrison has been appointed chief of obstetrics at Manchester Memorial Hospital. He succeeds Charles Peckham who retired last summer.

Fairfield County

The Fairfield County Medical Association has a new office location, 285 Golden Hill Street, Bridgeport. The quarters of the association since 1954 at 211 State Street in the same city were vacated in mid-December. The new office affords more space than was available at the State Street address.

Middlesex County

Donald Cook has joined John Egan and G. Robert Saunders in general practice in Saybrook.

The Connecticut State Hospital has a new pathologist. He is Gregory N. Brown.

The Middlesex Memorial Hospital is in the midst of a campaign to raise one and a half million dollars to enlarge its building. The project calls for an increase of 84 beds and an increase in ancillary services to supply the additional beds.

The Doctor's Office

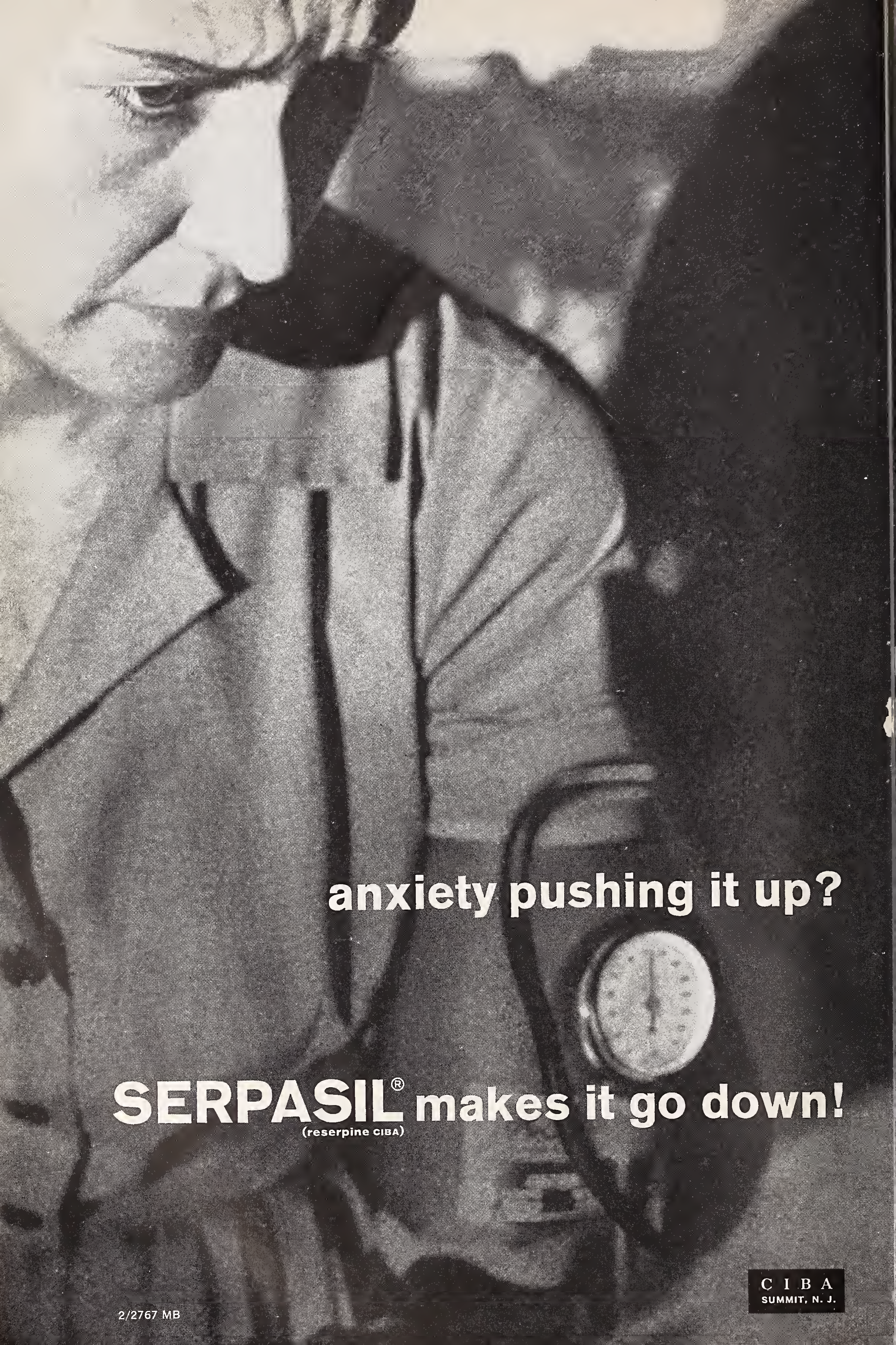
Joseph A. Amanti, M.D., announces the opening of his offices for the practice of surgery at 703 Long Hill Road in Groton and 25 Rope Ferry Road, Waterford.

Harold D. Batt, M.D., announces the opening of an office for the practice of radiology in association with Dr. Arthur L. Delgrego and Dr. Carl V. Pantaleo at 1441 Chapel Street, New Haven.

Robert J. Huszar, M.D., announces the opening of an office for the practice of internal medicine at 140 Woodland Street, Hartford.

Walter J. Reilly, M.D., announces the opening of an office for the general practice of medicine, surgery and pediatrics at 170 Meadow Street, Naugatuck.

Philip E. Sumner, M.D., announces that on or about December 1, 1959 he is planning to open an office for the practice of obstetrics and gynecology in Wapping Center, Hartford. Dr. Sumner also has offices at 36 Haynes Street, Manchester.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Letters To The Editor

December 9, 1959

To the Editor:

The Welfare Department pays Connecticut's retail druggists for pharmaceutical preparations prescribed for its beneficiaries approximately $3,750 daily, every day of the year. Expenditures for prescribed drugs have tripled in the past five years, while the number of state welfare beneficiaries is greater by only one-sixth. This tremendous increase in the tax money spent for drugs and medicines is of immediate and proper concern to administration, and particularly to the Welfare Commissioner, upon whom the statutes place responsibility for determining the total amount which may thus be spent.

In his August 1, 1955 letter "To Practitioners of the Healing Arts" etc., the then Welfare Commissioner noted the rapidly rising drug costs and said: "We do not wish to depart from the principles of free choice—nor set arbitrary limits—if we can avoid it. Therefore, as a less drastic approach to our necessary task of cutting medical costs, we propose a trial of strict enforcement of the rules and regulations now on the books, all of which have been issued to you over the past several years."

Two of these regulations could, and can, effect great savings in drug costs. One, in our December 1954 letter "To All Physicians and Pharmacists," outlined the conditions under which payment could be made for prescription refills. Little or no attention has been given it by prescribing physicians, hence the revised "refill" regulations in our [illegible] September 1959 circular letter "To All Doctors of Medicine" etc., approved by the Medical Society's Advisory Committe and now in force.

The other regulation, issued in 1954, 1955 and 1957 and repeated in our September 1959 letter, states in essence that the Welfare Department cannot pay for trade-name drugs and pharmaceutical preparations when therapeutic equivalents at lower prices are available under USP, NNR or generic names.

When this regulation was first issued, relatively few of the new, vigorously promoted and commonly prescribed drugs were available under other than trade names. This situation has changed completely, and at present pharmacological equivalents of most of the frequently prescribed trade-name preparations, under USP, NNR or generic terminology, can be secured by any pharmacy in the state, fom Connecticut distributors and those in adjoining states, within twenty-four hours.

Most of Connecticut's general hospitals are providing generic-named drugs for staff prescription, and in some institutions prescription is restricted to these drugs except in cases where trade-name preparations have as yet no generic-name equivalents. Savings through prescription of USP, NNR and generic-named drugs are substantial, presently averaging for thirty of the most commonly prescribed trade-name drugs something over 55 per cent.

Applied to the Welfare Department's drug procurement program, a reduction of even 40 per cent of its present drug costs would result in an annual saving of well over half a million dollars. It is therefore the Welfare Commissioner's decision that this regulation be enforced: that the Welfare Department may not pay for trade-name preparations when pharmacological equivalents are available at lower prices under USP, NNR or generic names.

Certain states already restrict prescriptions for their beneficiaries to drugs listed in state-controlled formularies. Others are contemplating the establishment of, or have already established, state-owned and operated pharmacies which may stock few trade-name preparations or none, and limit the kinds and variety of prescription drugs which are available. Connecticut's statutes and regulations are, it is believed, superior in that they place few limitations on the variety and number of prescribed drugs the Welfare Department can pay for, but only restrict the prices paid to the cost of those USP, NNR or generic-named drugs which are the therapeutic and pharmacological equivalents of the trade-name drugs commonly employed.

Enforcement of this regulation need occasion no hardship to the patient; in emergency, when immediate administration of a prescribed drug is necessary and the concerned pharmacy stocks it only under a trade-name, the Welfare Department will pay for it as such.

It is understood that full implementation of this regulation cannot be realized immediately; that glossaries of trade-names and their generic-name synonyms must be compiled and distributed to physicians and pharmacists, and that the latter must make provision for supplying the drugs for which the Welfare Department can pay. The Department expects to issue its glossary and information letter early in the year.

Finally, it is stressed that the USP, NNR and generic-name drugs here discussed are not simply therapeutic substitutes for commonly prescribed trade-name preparations, but are, according to the Council on Pharmacy of the American Medical Association, the same pharmacologically active drugs under non-copyrighted, or "public," names.

H. F. PIERCE, M.D., *Medical Director*

New Rauwolfia Preparation Causes Few Side Effects

A new derivative of rauwolfia, the old Indian snake root remedy, has been found to lower high blood pressure without producing the many adverse side effects caused by other rauwolfia preparations.

The new drug, called syrosingopine (Singoserp), was discussed in the current Journal of the American Medical Association by four Galveston, Texas, physicians.

They gave the drug to 77 patients with essential hypertension (high blood pressure of unknown cause) at the University of Texas Medical Branch.

The chief advantage of syrosingopine over other rauwolfia derivatives, such as reserpine, is the relative infrequency with which it produces disturbing side effects, the doctors said. These include drowsiness, terrifying nightmares, depression, nasal congestion, and gastrointestinal disturbances.

Fourteen of the patients were markedly intolerant to other rauwolfia preparations, but only four of these showed any signs of intolerance to syrosingopine and these were relatively minor.

The doctors—George R. Herrmann, Elmer B. Vogelpohl, Milton R. Hejtmancik and James C. Wright—recommended the use of syrosingopine for those patients with essential hypertension who are unable to take the other rauwolfia preparations.

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Book Reviews

CURRENT PROBLEMS IN ALLERGY AND IMMUNOLOGY.

Papers dedicated to Béla Schick on the occasion of his 80th Birthday. Edited by William Kaufman, New York, S. Karger, 1959, pp. 988, $? ?

Reviewed by John R. Paul

This remarkable volume contains a collection of 70 reprinted articles written for the Béla Schick Festschrift, first issued in sequential numbers of the International Archives of Allergy and applied Immunology (vol. XII-XV inclusive) which appeared in 1958-59.

There are few better ways of assessing the achievements of a distinguished man who has accomplished much in his professional life than to review the papers contributed to his Festschrift. In this instance, as in others, we have a measure of the regard with which Dr. Schick was held by his colleagues and students. Of these colleagues and students there are many both from this country and abroad, representing individuals who may have known Dr. Schick well or only slightly but all of whom seemed to have received inspiration from him and his work.

The papers in this collection have been arranged more or less chronologically to reflect Dr. Schick's early clinical and scientific interest, in diphtheria, serum sickness, and scarlatinal "Nachkrankheit"; and then his later interests as a pediatrician and student of infectious disease, in allergic conditions and the nature of the allergy, and clinical conditions, particularly asthma in childhood. We are reminded again in this volume that Dr. Schick should not be remembered only because his name is associated with a useful test to demonstrate the susceptibility of children and adults to diphtheria toxin, but because many other attributes among which is the important observation (made with Escherich) on the phenomenon known as the secondary illness following scarlet fever. This laid the groundwork, in 1912, for a proper concept of the pathogenesis of rheumatic fever which flowered some 20 years later.

In one of the introductory papers in this volume, Professor William B. Bean comments that, "some persons cannot endure the bright light of fame. They lose compassion and humility in false pride from a wrong estimate of their own uniqueness. Not so, Béla Schick, who has retained the simple virtues which are the marks of true greatness." This statement reflects the spirit in which the contributions to the Festschrift seem to have been written.

Quite apart from the pleasant and important occasion which has been responsible for these papers, this book is far more interesting than is an average collection of assembled reprints. Although many of the subjects of the articles deal with highly specialized fields, the reader who can take time to browse through this volume, will come across a wealth of new information on basic and clinical problems, dealing with infection and immunity, and with various aspects of the allergic response to infection and to allergens. This makes it a sort of encyclopedia on this general subject which one certainly would not be likely to find printed in this form elsewhere.

DISEASES OF THE NOSE, THROAT, AND EAR.

By Chevalier Jackson and Chevalier F. Jackson. Second Edition —W. B. Saunders, Philadelphia, 1959, Publishers, 886 pp. $20.00.

Reviewed by Edward H. Truex, Jr

This book takes the place of its predecessor first edition as an outstanding textbook for the student of otorhinolaryngology and reference book for the practicing physician. It is easy to read with more than eleven hundred illustrations. It follows an orderly pattern of presentation, is factual in its approach, and is in sufficient detail to afford one a broad knowledge of the field.

Sixty-one men with wide and unsual experience have contributed to its various chapters. A limited bibliography is presented at the end of each chapter or section.

Some facets of the specialty are undergoing such rapid change that any publication may be outdated by the time it reaches the reader. This is most evident as it pertains to the treatment of otosclerosis and chronic middle-ear diseases.

Jackson and Jackson's "Diseases of the Nose, Throat, and Ear" belongs in every institutional medical library and would be a valuable asset to anyone in the practice of medicine.

AN ATLAS OF NORMAL RADIOGRAPHIC ANATOMY.

By Isadore Meschan, M.D. and R. M. F. Farrer-Meschan, M.D., W. B. Saunders Co., Philadelphia, Pa., 1959. 759 pp. $16.00.

Reviewed by Robert M. Lowman

In this revision of the first text published in 1959, the authors have again produced a volume which eminently fulfills the role of being a "useful text" for medical students, general practitioners, residents, especially in radiology for x-ray technicians. To those interested in the teaching of anatomy, radiology, clinical medicine, and surgery, the volume is indeed a help. The format of the first edition has been retained with excellent explanatory line drawings accompanying the roentgenograms. In many instances the illustrations have been improved and are more satisfactorily reproduced. As the authors point out where loss of detail has been encountered in the engravure reproducing process, the Log Etronic prints have been utilized. The book is attractively bound and has a comprehensive index.

Revisions and additions in the second edition have eluded chapters on radiation protection, the radiography of the spine, pneumoencephalography and angiography of the brain. In addition the chapter dealing with bone growth and development has been completely rewritten. The advances in radiographic anatomy afforded by special studies of the heart and blood vessels have been included. In addition the advances in gastrointestinal radiographic anatomy derived from cine radiographic studies have also been included. Numerous specialized procedures are described and illustrated and useful nomograms for the measurement of various areas are included.

Because of the wealth of information and radiographic anatomy this is an important volume to those disciplines in clinical medicine which utilize x-ray diagnostic procedures. It offers an unusual and in many ways unequaled foundation for future study.

A DOCTOR'S LIFE OF JOHN KEATS. By Walter A. Wells, M.D. Vantage Press, Inc. New York, 247 pp. $3.95.

Reviewed by Denis S. O'Connor

Keats, the poet, is enshrined among the great for all time. Having accomplished so much of enduring value in the few short years of his adult life one wonders what a longer span of life might have brought forth.

That, in addition to his literary accomplishments, Keats was also a physician is not generally known. But it is this fact in Keat's life that furnishes the hub about which this interesting little volume revolves.

His associations bring out the rather surprising fact that so many of the literary men of that day were also medically trained.

Much discussion is given to Keat's personal health and the factors which hastened his end.

For those who are interested in the relationships of medicine to literature or in the broad aspects of medical history this volume would appeal.

The biographical approach to medical history has much to recommend it, both from the entertaining approach which personal interest brings and the retention of historical facts by association. This little volume deserves wide-spread acceptance.

CLINICAL ELECTROCARDIOGRAPHY. The Spatial Vector Approach. By Robert P. Grant, M.D. Blakiston Division of McGraw-Hill Inc. 1958. 225 pp., 93 illustrations. $12.00.

Reviewed by Louis H. Nahum

The author is presently head of the section on cardiodynamics in the National Heart Institute of the National Institute of Health of the United States Public Health service. He is known among specialists in the field as an able student and investigator who has shed much light on many aspects of electrocardiography particularly the correlations between anatomical and electrocardiographic relationships. He has illuminated many aspects of parietal block, peri-infarction block, localization of myocardial infarction and other areas.

In this bock he has brought all his experience together in a lucid and succinct way so that the beginner as well as the experienced electrocardiographer can be amply rewarded.

Although there is no experimental validation for the existence of a vector, the heart being too complex a source of current, nevertheless utilization of the concept in his hands has brought much deeper understanding into electrocardiographic interpretation.

For example electrocardiographers are not usually inclined to break up the QRS complex into its first and second half. Nevertheless a greater understanding does derive from just such a separation. The ST segment deviations in relation to T changes are easier understood by his technique. P wave abnormalities are very clearly analyzed through the separation of the P from the P-R segment.

There is for once a clarification between the diagnosis of hypertrophy, axis deviation and strain of both the right and left ventricles. An excellent discusion is given of right and left bundle branch block in which is woven the anatomy and physiology of the conduction system. The chapters on the electrocardiogram in children, in congenital heart disease and arrhythmias are excellently presented.

In a book of 225 pages it is not possible to cover everything one can encounter in electrocardiography. But there is no doubt that this book has made clinical interpretations of the electrocardiogram easier both for those who use the pattern approach as well as those who will be induced to employ the vector technique. It is far and away a better method of electrocardiographic interpretation than vector cardiography.

There are some who say we are at the cross roads in the development of electrocardiographic interpretation. That pattern electrocardiography has come to a dead-end. That the next step forward will come through vectorial analysis. The author of this book has wisely chosen the dialectic of resolving the pattern and vectorial approach through his method of analysis. In this endeavor he has succeeded so that it is not necessary to obtain an expensive vectorcardiograph nor abandon the electrocardiograph.

The figures in the book are drawn, not reproduced from actual electrocardiograms. This is definitely an improvement in portraying the points to be made and has permitted most of electrocardiography to be represented in the 93 figures.

The book is didactic but is this not the best way to make clear the ideas of a teacher. It is recommended for everyone both beginner and experienced electrocardiographer as the most rewarding book on electrocardiography that has recently appeared.

Errata

The book review on "A Textbook of Medicine" by Russell L. Cecil, M.D., and Robert F. Loeb, M.D., which appeared in the December 1959 issue of Connecticut Medicine, was written by Dr. Herbert Levine. It was inadvertently credited to Dr. Louis H. Nahum.

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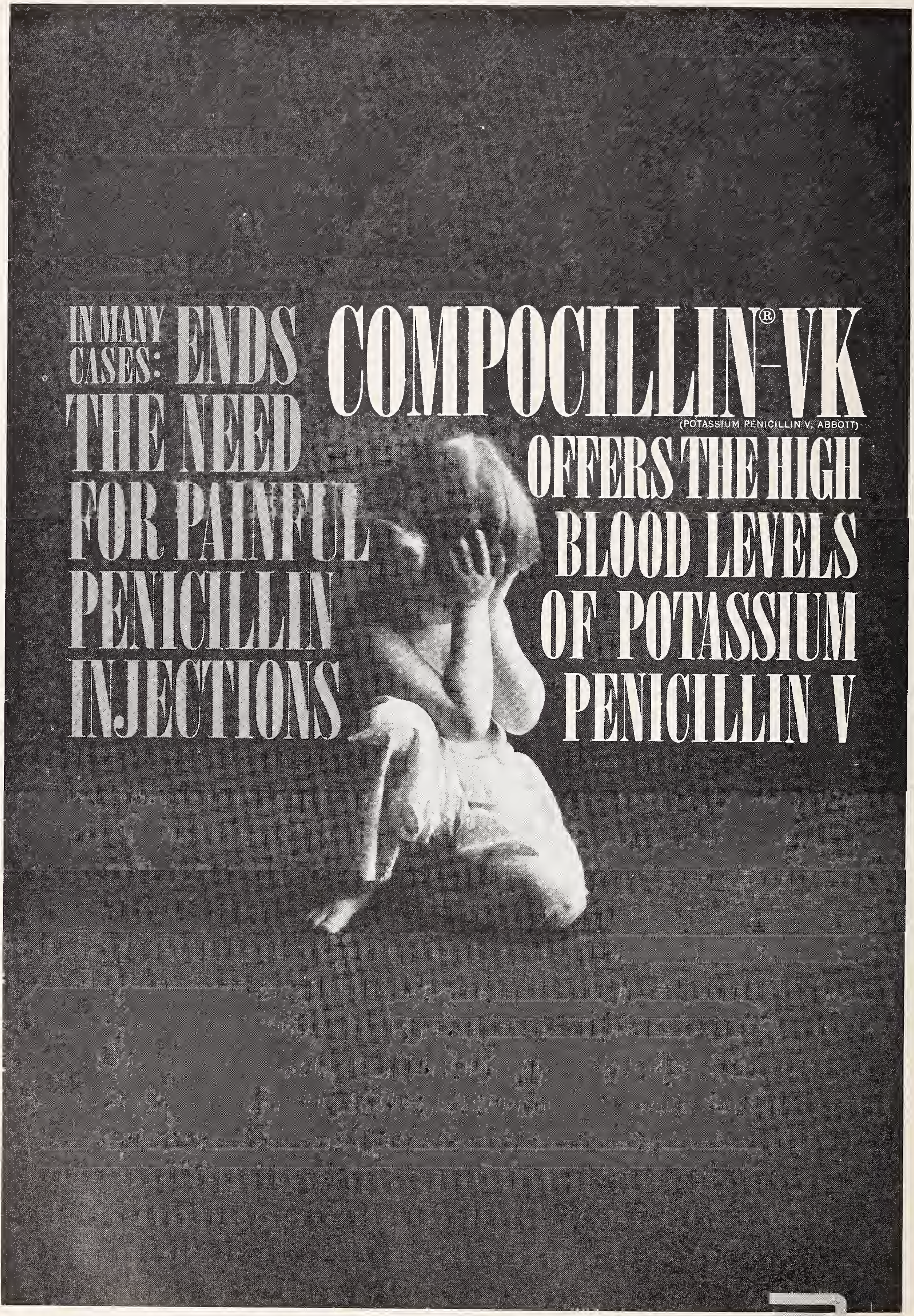

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Obituary

John P. Hanley, M.D.

1882 - 1959

John P. Hanley, dean of Tolland County physicians and lifelong resident of Stafford Springs died on November 2, at the Johnson Memorial Hospital. He was the husband of Harriet Rollins Hanley, R.N. They observed their forty-third wedding anniversary last October 12th.

Born in Stafford Springs in 1882, the son of William E. and Rose Clark Hanley. Dr. Hanley was graduated from St. Edwards School and Stafford High School. A graduate of Holy Cross College he prepared for his medical career at Cornell Medical College and was graduated in 1906.

He interned at Passaic, New Jersey General Hospital and on completion of internship returned to Stafford Springs and practiced medicine there for fifty years. He was a past president of the Tolland County Medical Association and past president of the Connecticut State Medical Society. He was chief of staff at the Johnson Memorial Hospital and was chief anesthetist at the hospital until he retired in 1957 because of failing health. Dr. Hanley was a member of the staff at the Johnson Memorial Hospital since its founding in 1912 and was the last of the original staff.

A charter member of the Knights of Columbus, Reverend Felix J. O'neil Council he is believed to be the oldest K. of C. member in the United States. He was also a charter member of the Modern Woodmen of America and a charter member of Oneco Tribe Improved Order of Red Men.

Besides his wife he leaves a son, John P. Hanley of Union; a brother Bernard of Rockville; two sisters, Mrs. Alice Berry of East Hartford and Mrs. Mildred Welsh of Storrs.

Personally I have been associated and worked with Dr. Hanley for 39 years. His cheery smile, his outstanding wit, and good nature will never be forgotten. He will always be remembered as the doctor who always had a pocket full of gum which he passed out every morning to patients, nurses, and everyone he came in contact with, even at my daughter's wedding in the receiving line.

All the staff has missed Dr. Hanley during his illness of the past three years, but his cheery disposition and kind regard for everyone will never be forgotten.

RALPH B. THAYER, SR., M.D.

In Memoriam

Hutchison, James E.—Hartford; Johns Hopkins School of Medicine, 1914; served as vice-president of the medical and surgical staff at Hartford Hospital; a diplomate of the American Board of Internal Medicine, he was a consultant to the Neuro-Psychiatric Institute; died at Hartford Hospital November 21, aged 70

Stabnick, Joseph S.—Hartford; Jefferson Medical College of Philadelphia, 1943; a member of the Department of Anesthesiology at Hartford Hospital; he was recently appointed to the visiting staff at the U. S. Veterans Hospital, Newington; practiced in Memphis for 20 years prior to coming to Hartford; died at Hartford Hospital November 14 at age of 49.

Uranium Milling Safety Rules Outlined

Even though uranium compounds are probably no more dangerous than lead or mercury during mining and milling, they still "should be treated with a good healthy respect," according to an Atomic Energy Commission report.

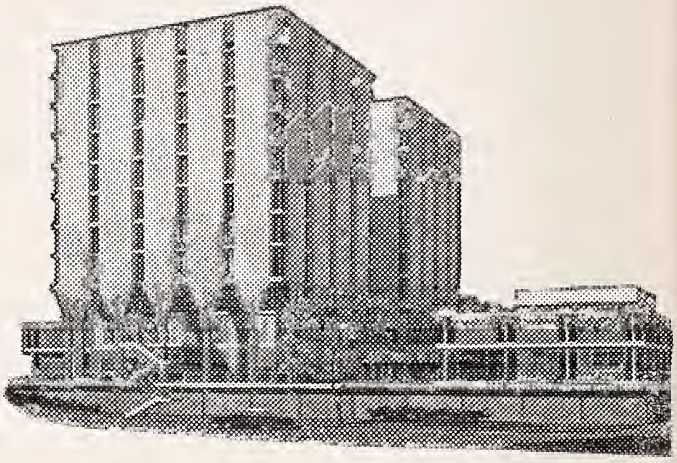
Appearing in the current Archives of Industrial Health, published by the American Medical Association, the report said the "cavalier treatment" exercised by many employees in uranium processing plants indicates a complete lack of respect.

These employees should be instructed in sound health and safety procedures, the report said.

It is a summary of a health study of uranium mills conducted by W. B. Harris, A. J. Breslin, H. Glauberman, and M. S. Weinstein, of the AEC Health and Safety Laboratory, New York.

REDEVELOPMENT— —AND MEDICAL HOUSING

New Type Of Medical Center Will Stress Time-Saving Devices To Increase Income



With huge redevelopment programs such as New Haven has underway, Hartford is starting, and Bridgeport and other cities throughout the state are planning, practically all of the major businesses will be concentrated in one area. It is logical to suppose that large medical buildings will also be erected in these centers.

Most physicians will agree that it would be nice to be located in a modern medical building convenient to everything, but many wonder if their costs would not be extremely high. "Not so!" says Edwin V. Larsen, Director of the $5,000,000 New Haven Medical-Dental Center, now being planned for that city.

Larsen explains his answer in this way: "As far as our Center is concerned, we have planned the location and facilities in such a manner that almost any doctor can save nearly 25 per cent of his time. Extra income from this will in most cases make the percentage of gross income he will pay for the new quarters and services less than he pays for his present offices." He explains his reasons for this statement.

"The New Haven Medical-Dental Center will not be just another office building but will be a carefully planned facility to aid the doctors in every way." He said that he and his associates, realizing that time is the most valuable commodity of those in the medical profession, have devised many ways to aid the physician, in this category, and many of them he thinks have never been offered in any similar building.

The location, of course, was of prime consideration, and the builders were fortunate enough to obtain sufficient land on the south side of the new Oak Street Connector and on the west side of Church Street. This is within a less than five minute walk of the Grace-New Haven Hospital and the Yale Medical School and is an equal distance from the heart of the business district, Church and Chapel Streets. It is also a very short and easy drive to St. Raphael's Hospital, and with the opening of the complete Connector the building will be within easy reach of anyone in Greater New Haven.

John Caproni, of Caproni Associates, the architect chosen to design the Center, has made a study of the features offered in other medical buildings throughout the East, and many doctors were questioned to find out what they thought were the most important features to be included in a center of this kind.

With all of these things in mind Architect Caproni went about designing a building that has almost every conceivable facility and service that a member of the medical profession could desire. Here are a few of them:

1. *Parking*—There will be an underground garage with spaces for some 300 cars with surface parking for another 135. This will allow about four units for each office which will be a great boon to the patients as well as to the doctors.
2. *Interbuilding telephone system and answering service*—is the heart of the time-saving system. Each doctor may have his own interbuilding phone in addition to his regular telephone. On the "Interbuilding" he may talk to the Grace-New Haven and St. Raphael Hospitals direct, in addition to other physicians in the

building, to X-ray, to the Laboratory, to the Pharmacy, to the Garage, or to other building services while using his private line for outside calls. There will also be an answering service in connection with this system for those that desire it.

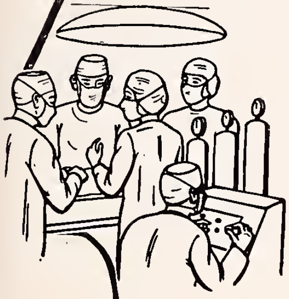
3. *X-ray*—A center for X-ray services will be located in the building and will be operated by a highly qualified radiologist so that the tenants may avail themselves of this with a great saving of time.
4. *Laboratory*—There will also be a small modern laboratory, under the supervision of an M.D., with qualified technicians so that a doctor may be assured of rapid service on tests, if he desires.
5. *Pharmacy*—A first-class pharmacy is planned, and if the doctor wishes, he may have his nurse call down a prescription. If it is not too complicated, the patient may pick it up on his way out by presenting the original. If it is necessary to wait, there will be a comfortable lounge.
6. *Operating rooms*—Two small but completely equipped operating rooms are planned, to be used for minor surgery. Next to these will be recovery rooms for a few hours' service. All of this should relieve crowded hospital facilities.

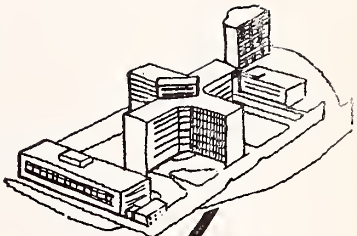
Offices—As to the suites themselves, they will vary with the different floors to suit the needs of the individual doctors. They will be divided and partitioned as desired, and each will have individual heat and air conditioning controls.

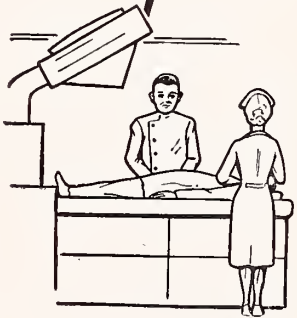
On certain floors there will be a large common waiting room in each wing from which all offices lead. One receptionist can be in charge here, and the costs can be shared pro rata among the doctors in such a section. A great saving is assured in this feature.

Two very valuable facilities are planned, which as far as can be ascertained are offered in no other medical building in the east, and probably in the country.

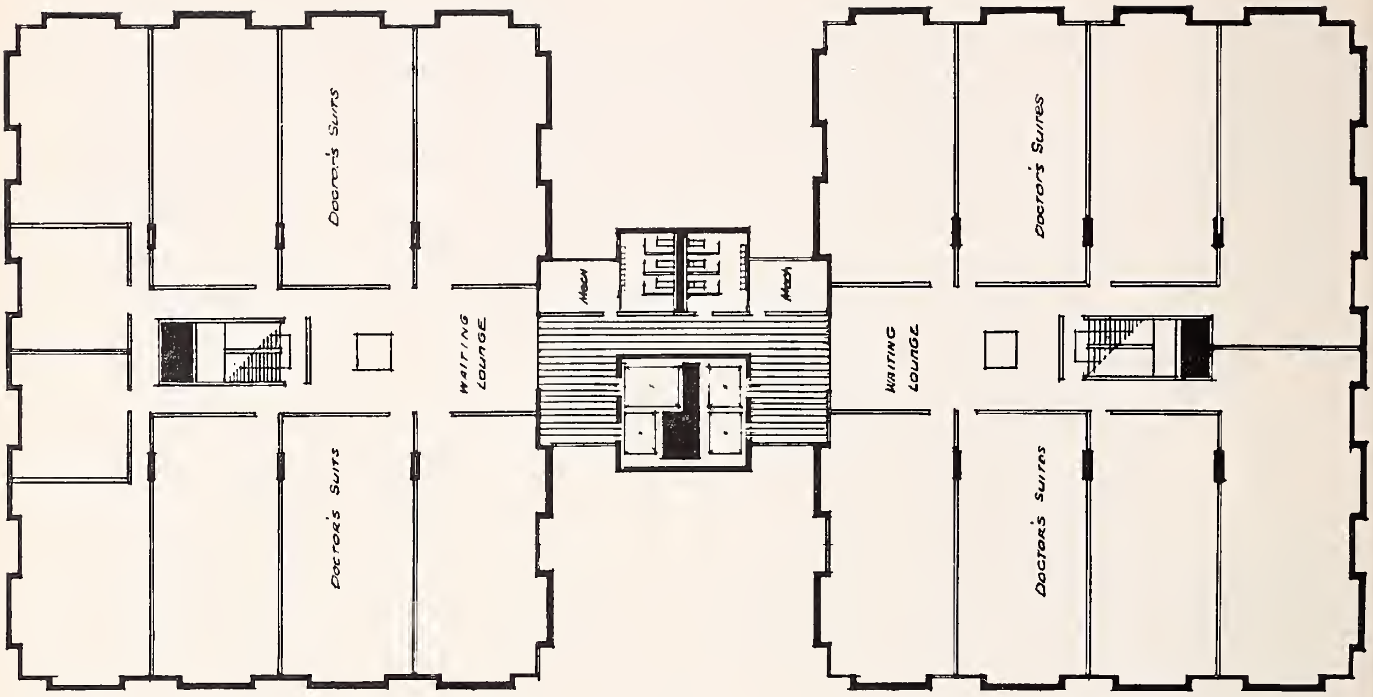
Discussions are underway in connection with building a small auditorium which would be offered to various Medical and Dental Groups for meetings, lectures, and showing pictures. This would also be







Illustrated on this page is the interbuilding telephone system, one of the Medical Center's great time-saving devices, whereby a doctor may call anyone in the building or the hospitals direct without tying up his own line.

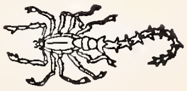


used by the Ethical Drug Houses for showing films and for entertaining the doctors. There would be space and equipment for serving buffets and cocktails.

An adjunct to this would be the detail men's room. Undoubtedly every doctor recognizes the value of these missionaries, but they may arrive at inconvenient times. The purpose of this special room would be to have a desk and an inside telephone so that a detail man could call the doctor to see when it would be convenient to see him. A hall man or elevator starter would see that detail men were not allowed above the first floor without an appointment.

This same room would have a display counter where the various companies, by reservations, would be able to display their products, explain them, and give samples. Each doctor would be notified of the time and would have the privilege of stopping in if he was interested.

Other conveniences—It is planned to have a Restaurant, Bank, Florist Shop, Barber Shop, Beauty Parlor, and perhaps other suggested shops located in the building.



FIBRINOLYSIS 1

Basic Aspects of Interest to the Clinician

DANIEL KLINE
and
LOUIS H. NAHUM
New Haven

From the Department of Physiology
Yale University School of Medicine
New Haven, Connecticut

WE have long been aware of the nature and importance of the blood coagulation system in the biological economy of mammals. Not only does it play a major role in the prevention of hemorrhage but it may also be of importance in the inflammatory process in which the area involved is isolated by a fibrin deposit which forms a mechanical barrier in the lymphatics and the tissue spaces against the spread of the cause of the inflammation. What is now coming under scrutiny is the fibrinolytic system which serves to dissolve blood clots and also the fibrin barrier formed in the process of recovery from inflammation. Just as the blood coagulation mechanism is involved in many more biological processes besides thrombosis, so the fibrinolytic system is involved in many more processes than thrombolysis, such as inflammation, afibrinogenemia, hemorrhagic diathesis.

Intravascular thrombosis is a cause of serious invalidism and death. It is therefore inevitable that growing knowledge of the fibrinolytic system should have aroused interest in the development of a therapeutic agent that would produce thrombolysis and at the same time avoid proteolysis which if extensive would make thrombolysis impracticable.

Studies on various aspects of fibrinolysis and fibrinolytic activity have already produced a vast literature; several excellent and comprehensive reviews of recent developments in this field have appeared.[1,5] The subject is so complex, however, that the physician who is not a specialist in this area may have difficulty in grasping its significance to his practice and evaluating the possible diagnostic and therapeutic possibilities involved. An attempt will be made in this paper to present an outline of the development of this subject, only those facts being presented which are necessary for an understanding of the current potential diagnostic and therapeutic usefulness of the fibrinolytic system.

The early history of fibrinolysis has been traced by Christensen.[2] The modern phase of the subject began at the turn of the century when the term fibrinolysis was introduced by Dastré who found that a globulin fraction of serum possessed the ability to hydrolyse fibrin as well as various other proteins. Hédin a few years later showed that the albumen fraction of blood contained an inhibitor of this proteolytic enzyme. The treatment of blood with chloroform greatly increased the fibrinolytic activity and also the power to digest casein. This experiment demonstrated that proteolysis and fibrinolysis are closely related and revealed that the blood contains a large reservoir of potential clot-dissolving enzyme.

Loomis, George and Ryder[3] proposed the term fibrinolysin for the active enzyme, profibrinolysin for the precursor, and anti-fibrinolysin for the inhibitor, and these terms are still occasionally employed in the literature. However, since the enzyme is not specific for fibrin, but is able to split other proteins as well, Christensen and McLeod[4] called the enzyme plasmin, its precursor in the blood plasminogen, and the inhibitor anti-plasmin. This nomenclature is now in general use and will be employed in this paper.

Activators

Free plasmin is not present in blood except in certain pathological conditions. Its precursor, plasminogen, however, is found in considerable amounts. The mechanisms in vivo and the methods in vitro which will convert plasminogen to plasmin are therefore of considerable importance in the whole process of fibrinolysis. Tissue and blood substances, bacterial products, chemicals and a wide variety of other agents have been found which effect this conversion. This subject has been reviewed in detail.[1,5] We will consider at this time only the mechanisms within the body, the urine activator, urokinase, and the bacterial product streptokinase (SK) because of their demonstrable interest to the clinician.

Plasminogen activators have been shown to be present in a wide variety of tissues. The concentration varies widely from organ to organ and even within a given organ.

Most of the fluids of the body including blood also contain activators in varying amounts. Urine, milk, tears and seminal fluid are particularly rich in activator. If one can introduce the principle of purpose into biological phenomena it becomes clear that since the liquids must pass through narrow channels in the body an essential prerequisite is the preservation of fluidity by avoidance of clotting. This may explain the high content of activators of plasminogen in body fluids in general.

Even though the kidney itself is not rich in plasminogen activator nevertheless clinically, one seldom finds bleeding in the urinary tract associated with blood clotting. The probable explanation is that urine contains a significant quantity of a plasminogen activator termed urokinase. While it may be formed by the kidney and serve an essential role in the rapid resolution of clotted blood and fibrin in the urinary system, it probably also represents an excretion product since it increases in many states in which a rise in serum activator has occurred. Thus urokinase excretion has been found to be increased in myocardial infarction, coronary insufficiency, pulmonary hemorrhage and in patients who developed fibrinolytic states during cardiac surgery.[6] Urokinase, which has been appreciably purified[7] is presently receiving clinical trial in the treatment of thrombosis.

Streptokinase (SK), a protein which appears in the medium in which certain strains of hemolytic streptococci are being grown, is a plasminogen activator of considerable importance. It is available commercially as Varidase (Lederle) in partially purified form, and has been used locally to dissolve fibrinous exudates in humans. In highly purified form, it is now undergoing clinical trial in various types of thrombosis. Streptokinase is by far the most potent activator known up to this time. The conversion of plasminogen to plasmin in the presence of streptokinase is unusual, in (1) being species specific for the human and (2) streptokinase first reacts with an unidentified human plasma protein (possibly plasminogen itself) to form an activator which in turn converts plasminogen to plasmin in many species. The importance of this intermediate activator formation will be brought out later. The discovery of streptokinase by Tillet and Garner[10] in 1933 and the elucidation of its relationship to plasminogen by Christensen[2] constitute landmarks in fibrinolytic studies.

Plasmin itself can activate plasminogen at a slow rate. This process may be important in the normal physiological dissolution of blood clots

The Importance of the Fibrin Clot

It is now well established that plasminogen, activators and plasmin are adsorbed onto fibrin clots. This characteristic is of obvious importance in localizing such material at the site of their action, and greatly reduces the danger of general proteolytic activity which could be expected in hyperplasminemia. This also explains the greater efficacy of plasmin than trypsin in dissolving fibrin. An important characteristic of plasminogen, however, is its affinity for fibrinogen also, so that during fibrin precipitation the resulting blood clot not only contains fibrin but also plasminogen throughout its structure. The activation of this trapped plasminogen by adsorbed activators or plasmin, thus leads to rapid dissolution of a clot, whereas the application of fibrinolytic agents to the surface of a clot which does not contain plasminogen, produces much slower clot dissolution and must be applied in such high concentration that other blood proteins are affected also. To quote Astrup, "We can but admire the ingenious way nature has solved the extremely difficult problem of providing blood with a proteolytic system which exerts its effect only when and where it is needed."[9]

Milstone in 1941 was the first to demonstrate the presence of plasminogen in fibrin clots.[8] The importance of this observation was overlooked for a long time because most investigators worked with bovine fibrinogen which in their system could not be activated by streptokinase. It was only when Astrup and co-workers demonstrated that streptokinase becomes active against bovine plasminogen when human plasminogen is mixed with it, that it became clear that a proactivator is first converted into an activator by the streptokinase. This activator then converts bovine plasminogen into plasmin. The discovery of the formation of an activator was made independently by Sherry[1] and his group and established beyond a doubt that human plasma plus streptokinse forms an activator which will convert the plasminogen into plasmin of virtually every species including man. It also refocussed the attention of investigators on the plasminogen which is trapped within clots.

Sherry and his co-workers, using these observations have developed a brilliant theory based on the primary importance of plasminogen activators rather than circulating plasmin to explain the physiological mechanism of thrombus formation and dissolution.[11] It constitutes one of the outstanding new advances that have been made in the understanding of blood coagulation and fibrinolysis. To summarize, fibrin is important in the process of fibrinolysis in at least three possible ways: (a) in containing plasminogen; (b) in adsorbing activators from the plasma to activate plasminogen in the interior of the clot to form plasmin; (c) in adsorbing plasmin from plasmin anti-plasmin combination in the plasma onto and possibly into the clot for direct thrombolysis by slow conversion of the contained plasminogen to plasmin. It is clear that such a mechanism is designed to produce fibrinolysis when a clot forms intravascularly, and at the same time to spare the circulating fibrinogen from destruction by binding plasmin to anti-plasmin in the plasma.

Plasminogen Activation Within the Body

Normal plasma clots redissolve after prolonged incubation at 37°. Thrombolysis occurs more quickly if the plasma is diluted or if the clot is made from the euglobulin fraction of the plasma proteins (the albumin fraction contains inhibitors). Chloroform treatment also removes inhibitors and permits more rapid clot lysing to occur. This suggests that clot lysing enzymes are normally kept inactive by the presence of inhibitors and fibrinolytic activity becomes apparent only if there is an increaase in unbound free enzyme or if the presence of a fibrin surface permits the transference of enzyme from a linkage with inhibitor to adsorption onto the fibrin. It is not yet settled whether the active agent is a plasminogen activator or plasmin itself. At the moment, since plasmin activity develops slowly under the conditions described above and based on evidence obtained in states of enhanced fibrinolytic activity induced by exercise, ischemia, pyrogens, electroshock, adrenaline and acetylcholine (Sherry), it appears that the increases which occur are accompanied by rises in the level of circulating activator, not of plasmin itself.

Where does the activator come from? Studies of blood vessels indicate that tissue activators may be released from vessel walls. Chemicals such as acetylcholine, histamine, adrenaline and serotonin, as well as local anoxia, provoke such a release (Kwaan, etc.).[12] This mechanism seems sufficient to explain the states of enhanced fibrinolytic activity which have been seen in certain clinical conditions and may be related to variations in the excretion of urokinase, the urinary plasminogen activator.

Practically every tissue in the body, as well as their contained blood vessels also contain plasminogen activator. In most of them the activator is attached to insoluble cellular material and is probably not readily available to the blood although they are available to the tissue under special conditions of tissue injury. Nevertheless the content of tissue activator varies significantly. Thus Albrechtsen[13] reported large amounts in uterus and endometrial tissue, menstrual fluid, adrenal gland, lymph nodes, prostate, thyroid, lungs and ovary. On the other hand only small amounts are present in other tissues like kidney, muscles, heart and spleen. The variability suggests that the fibrinolytic system is of fundamental importance not only in the resolution of inflammatory or traumatic fibrinous exudate everywhere but specifically in the physiology of the various organs. For example, the presence of activator in synovial and capsular tissue should prevent fibrin deposit in joints. Large amounts of activator in endometrial hyperplasia probably accounts for the liquefaction and general absence of fibrin in menstrual blood. Blood clotting in prostatic disease locally is rare and hemorrhage after prostatectomy is not infrequent. In fact a hemorrhagic state may develop following prostatic surgery and in some patients with prostatic carcinoma. Can this be due to the fact that the prostate contains a high concentration of plasminogen activator which because of its increased solubility might be readily released into the general circulation? The high content of activators in lung tissue may account for the hemorrhagic state following trauma or operation on the lungs. It may also play a significant protective role in cases of pulmonary embolism by promoting the lysis of the trapped clots. Such correlation between tissue activator content and the physiology of the organ may yield answers to such important questions that have puzzled clinicians for a long time. Can local hemorrhage be due to liberation of tissue activator; what mechanism is involved in the release into the general circulation of activators from tissues rich in this substance which then may account for the hemorrhagic diathesis; is this the mechanism that accounts for bleeding following surgery of the lungs, prostate, spleen, pancreas?

It would appear that the various stimuli which have been shown to provoke increases in the fibrinolytic activity of the blood, through activator release are exactly those in which the possibility of fibrin formation is increased, for example, in anoxia, local ischemia, after acetyl choline, epinephrin or serotonin administration, local inflammation or injury. This release of tissue activator into the blood appears to be an important compensatory mechanism always available which serves to prevent clot formation or to dissolve intravascular clots once they have formed. It is notable that this protection is either reduced or absent in atherosclerosis when thrombosis is known to be relatively frequent, often posing a threat to life itself. Can it be that the thickened vessel wall has blocked the release of activator, thereby interfering with the "built-in" protective mechanism, i.e. release of activator?

Conditions of Increased Fibrinolysis

Since fibrinolytic activity may be elevated by an increase in activators in the blood without the appearance of free plasmin (any plasmin formed being neutralized by anti-plasmin), Sherry[1] has suggested the useful terms Thrombolysis to describe fibrinolytic states in which the activator level is elevated, and Hyperplasminemia to characterize the conditions in which inhibitor mechanisms are overwhelmed and proteolytic activity is demonstrable.

The attention of clinicians in the past has been called to those patients who showed hyperplasminemia because of the obvious clotting defects produced by free proteolytic action and often, hemorrhage, which did not respond to usual therapeutic treatment. Most of the reported cases, therefore, involve conditions in which the inhibitors of plasmin have been overwhelmed, and free plasmin through its proteolytic activity has destroyed the circulating fibrinogen. Undoubtedly, more subtle testing for activator levels will soon reveal many conditions in which there is an elevated level of activator activity without obvious coagulation defects. It remains to be seen whether an increase in activator activity invariably precedes the appearance of free plasmin in the blood.

Reported conditions of increased fibrinolysis have been grouped by Sherry[1] into five categories: (1) stresses, such as pyrogen-induced fevers, emotion, exercise, or anoxia in which elevated activator activity has been found. In studies of post-mortem blood from persons dying of anoxia, hyperplasminemia has been found, explainable by the leakage of large amounts of activator from the walls of anoxic blood vessels; (2) following surgery, particularly pulmonary, (3) obstetric complications of amniotic fluid embolism, after intrauterine retention of a dead fetus. Placental abruption which was at one time thought to be due to fibrinolysis may in fact be due to hypofibrinogenemia caused by loss of excessive amounts of fibrinogen into the placental clot; (4) rarely during the course of neoplastic disease but more often if the tumor originates in the prostate; (5) during the course of diseases such as polycythemia vera, Boeck's sarcoid, leukemia, thrombocytopenic states and cirrhosis of the liver.

Many of these conditions of pathological fibrinolysis are accompanied by coagulation defects as well. They may reveal afibrinogenemia and/or serious hemorrhage, unresponsive to the usual therapeutic measures. These are dramatic examples but it may be expected now that clinicians are becoming aware of the entity, that milder forms will increasingly come to attention in which purpuric manifestations or hypofibrinogenemia will be discovered in medical patients that may also be due to pathological fibrinolysis.

Fibrinolysis and the Etiology of Other Diseases

1. Inflammatory reactions. It has been shown that the inflammatory response involves the deposition of fibrin. Proteolytic substances are known to produce polypeptides which can be isolated from inflammatory exudates and which affect the permeability of capillaries, the mobility of leucocytes and possibly the permeability of connective tissue. Since plasmin is quantitatively the most important proteolytic enzyme found in the blood (as its precursor, plasminogen), activation of this system has been produced by SK in an effort to combat the inflammatory reaction. A definite beneficial result has not yet been proven. Some of this work has been reported at a Conference.[14] SK has been used extensively to accelerate wound debridement and repair.[15]

2. Allergic responses. Some clinicians believe that activation of the fibrinolytic system is involved in allergies. This area is highly controversial and has been reviewed by Ungar and Hayashi.[16]

3. Atherosclerosis. Duguid[17] has shown that mural thrombi in peripheral arteries rapidly become endothelialized and may at a later examination appear to have arisen within the vessel wall. Deposition of lipids and other organizing processes may then convert the original lesion into one now recognized as atheromatous. Whether or not this is the only pathological mechanism of atheroma, it could be one of them and the question arises why in such an event the compensatory mechanism in the body has failed to lyse the thrombus. In this connection it is perhaps worthwhile to point out that lipemia can inhibit the in-vivo fibrinolytic response and at the same time alter the coagulative mechanism favoring clotting. These views are hypothetical only in that they have not been shown to co-operate in the production of human atherosclerosis. What is probably not in doubt is that atherosclerosis is accompanied by a

failure of the fibrinolytic system and is at the same time closely related to alterations in lipid metabolism.

The widespread distribution of plasminogen activators throughout the body implies a role for this system, not merely in the regulation of the fluidity of the blood, but of a much wider nature in which all tissues must be involved. One such that comes to mind is in the inflammatory response which may involve all tissues and in which fibrin deposit serves to isolate the area involved by producing a mechanical barrier in the lymphatics and tissue spaces. The laying down of fibrin and its prompt removal once its "ground-work" function has been served, must constitute an indispensable enzyme system concerned with basic repair mechanisms. Any imbalance in the rate of fibrin deposition vs. its lysis could conceivably profoundly affect many of the functions of the body. Further knowledge should make clearer the importance of the fibrinolytic system in many problems of health and disease.

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THE TREATMENT OF SYPHILIS

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The increase in syphilis, beginning nationally in 1956, in Massachusetts in 1954, and continuing to the present, has caused many physicians to renew their acquaintance with this highly versatile disease.[1,2] For the fiscal year ending June 30, 1959, there is expected a nation-wide increase of approximately 10 per cent. Massachusetts will have an increase of about eight per cent, on the basis of reported cases in the first ten months of fiscal 1959.

This upsurge of infectious syphilis has been noted not only in reports from public clinics, but by private physicians as well. There has been an increasing interest on the part of physicians concerning the latest diagnostic methods and current therapy. It is my purpose to outline the treatment schedules now in use in our 23 State cooperating clinics in Massachusetts and to discuss what can be reasonably expected with this treatment.

Parenthetically, it is obviously harder to diagnose syphilis than to treat it; but by the same token, treatment should not be started without first establishing a diagnosis, ascertaining the stage of the disease, and determining whether the patient is in need of further treatment if previously treated. One does not flog a fixed positive blood test for syphilis; i.e., the Wassermann-fast case.

Treatment

The drug of choice in the treatment of syphilis is penicillin.[3] We use a total of six million units of procaine penicillin G in aqueous suspension, 600,000 units given intramuscularly daily or every other day for 10 doses, in all stages of syphilis except the neural and early congenital. For the neural stages we employ nine to 12 million units over a period of 15 to 20 days. In the newborn infant and for the neonatal period of early congenital syphilis we use 100,000 units of penicillin per kilogram (2.2 pounds) of body weight over a period of seven to 10 days. However, in actual practice no less than one million units of penicillin distributed over a 10-day period has been given. Children two to 10 years of age receive, in general, half the adult dose.

These schedules have been satisfactory.

If it is inconvenient for the patient to return daily or every other day, 600,000 units of procaine penicillin G in oil with two per cent penicillin aluminum monostearate (PAM) may be substituted for procaine penicillin G in aqueous suspension. The latter gives a therapeutic blood level of penicillin for 48 hours, whereas the PAM remains at effective blood levels for three to five days. Thus, schedules with PAM may be utilized every third day or twice weekly for 10 doses.

*. . . Syphilis is on the increase nationally—
The rise has been noted in both clinic
and private practice.*

Patients sensitive to penicillin. The first antibiotic used to treat penicillin-sensitive patients with syphilis was streptomycin, followed by chlortetracycline, chloramphenicol, oxytetracycline, tetracycline, erythromycin and carbomycin. There have been a few others.[4] It is important to remember that with the newer antibiotics neither has sufficient time elapsed nor have enough cases been accumulated to evaluate the drug adequately as an alternate therapy for syphilis. We have adopted, as the first alternate antibiotic, tetracycline in dosages of 0.5 gm. four times daily by mouth for 10 to 12 days for all stages of syphilis except neural. In neurosyphilis we employ two gm. daily for 20 days. The physician must be certain that the medication in this form is taken. We have found it necessary to have the patient return daily so that the ingestion of the drug can be supervised.

Post-treatment examination. Our practice is to examine the patient clinically and serologically each month for the first year and every three months during the second year, and thereafter annually if the patient is Wassermann fast. Except for those with neurosyphilis, all patients have a lumbar puncture performed six to 12 months after treatment, the spinal fluid is examined for cell count and total protein, and the Davies-Hinton test is performed. If these results are negative, the patient receives another lumbar puncture at the end of two years; if this too is negative, no further lumbar punctures are necessary. Patients who have neurosyphilis receive a spinal puncture at intervals of three to six months, as indicated by the degree of activity of the spinal fluid.

Contact interview. Patients with primary syphilis should be questioned for all contacts within three months before and after the onset of symptoms.[5, 6] Patients with secondary syphilis should be questioned for contacts within the past six months before the appearance of the secondary manifestations. Those who have early latent syphilis should be queried for contacts within a one-year period. All marital and familial contacts should be checked as indicated.

Patients who have late syphilis need to have their spouses examined, and if the wife is positive, the children should also be examined. With congenital syphilis, the parents and available siblings should be examined.

These represent minimal standards of contact interviewing. In addition, it is advisable to ask the patient with primary or secondary syphilis to take to the physician's office or clinic the friends he thinks should be examined, either because they have been exposed to the same sex partners or because they have had similar-appearing lesions. The patient's contacts are also requested to do the same thing. This technic, called "cluster testing," has been the means of discovering additional cases of syphilis that would not have been uncovered through standard interviewing methods.

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Results of treatment. The patient wants to know and should be informed by the physician what can be reasonably expected from a single course of treatment and the necessity for returning to the physician's office at stated intervals for post-treatment examination in order to make sure that the patient does not have a clinical or serologic relapse. A certain number of treatment failures can be anticipated with a single course of treatment. Therefore there is a necessity for an adequate post-treatment observation period in order that these therapeutic failures may be re-treated. Furthermore, the results of treatment are influenced by the stage and duration of the disease. Consequently, a "serologic" cure will be achieved sooner in early syphilis, whereas in some patients with latent or late syphilis a "serologic" cure may never be realized.

Treated primary syphilis. The patient with seronegative primary syphilis with a darkfield positive chancre may develop a positive reagin blood test for syphilis during, or immediately after, treatment. In a short time—usually less than three months—the patient becomes seronegative and remains so unless there is a reinfection or relapse.

But the patient with seropositive primary syphilis, irrespective of darkfield findings, may require six to nine months before seronegativity is achieved. Therefore, it is our practice to re-treat all patients who do not have a negative blood test nine months after treatment. Prior to re-treatment, the patient receives a lumbar puncture and the spinal fluid is tested for cell count, total protein, and serology. If any of the spinal fluid tests are abnormal, the patient receives a minimum of nine million units of penicillin; otherwise, six million units will suffice.

The physician can expect up to two per cent therapeutic failures with one course of penicillin in the treatment of primary syphilis. We have not had to re-treat more than once, in the absence of a reinfective exposure.

Treated secondary syphilis. About 90 per cent or more of patients with secondary syphilis, and to a lesser extent patients in any stage of syphilis, will exhibit a Jarisch-Herxheimer reaction or therapeutic shock several hours after the first injection of penicillin. It consists of chills, fever, headache, and muscular and joint pains. The lesions become more prominent, edematous, and more brilliant in color. The reaction lasts a matter of hours and can be controlled by mild sedation. It does not occur following the second or subsequent injections. A reduction of the initial dose of penicillin does not prevent the Herxheimer reaction. In no instances should treatment be withheld or discontinued because of this.

The rash begins to fade within 48 hours and is usually gone by the fourteenth day.

The blood test is always positive in secondary syphilis. In those instances where the qualitative blood tests were negative, the quantitative blood tests will usually reveal a prozone phenomenon where a negative reaction occurs in less diluted serum and a positive reaction in the more diluted serum.

Frequently the blood serologic titer will rise during and immediately following treatment, and then pursue its downward course. In one year, about 98 per cent of the patients will achieve seronegativity, and the remaining two per cent will become seronegative during the second year. As a matter of practice, however, patients who are still seropositive one year after treatment receive a lumbar puncture, and are re-treated with six million units of penicillin if the spinal fluid serology is negative, and nine million units if the spinal fluid has an increased cell count, total protein, or positive Davies-Hinton test.

In secondary syphilis, a treatment failure rate of about five to 10 per cent can be expected with one course of penicillin. One re-treatment course usually suffices in the absence of reinfection.

Treated latent syphilis. Here we encounter the problem of the Wassermann-fast case, for not all of these latent cases become seronegative after treatment. The chances of a treated latent syphilitic becoming reagin negative is dependent to the greatest extent on the duration of the disease. The patient who has had the disease for six months or less can be expected to react very much like the secondary syphilitic, except that the percentage of those with positive blood tests remaining longer than a year may be in the neighborhood of 25 per cent. With few exceptions, these will be seronegative by the end of the second posttreatment year.

Those who have had their disease for two years or less have about a 50 per cent chance of becoming seronegative in two years.

In general, it can be said that 75 per cent of those patients with early latent syphilis—syphilis of less than four years duration—can be expected to be seronegative in five years or less; the remaining 25 per cent become Wassermann-fast, some for life.

With late latent syphilis—syphilis of four years duration or more—about 25 per cent become seronegative in five years or so, and the remaining 75 per cent become Wassermann-fast with very slow downward progression of their serologic titres.

Therefore, it is our practice to perform a lumbar puncture on these patients about a year after treatment and if this is negative, to repeat it at the end of the second post-treatment year. If the three spinal fluid examinations—the initial one during the diagnostic workup, and the two post-treatment ones—are normal, no further lumbar punctures are indicated.

As a matter of routine, however, our customary policy is to re-treat all those patients whose blood serologic titers remain fixed and fail to show any significant decline at the end of one year. Also retreated are those patients whose blood serologic titers decline somewhat but who at the end of the first post-treatment year have quantitative blood titres 1:4 or higher.

No additional re-treatment at the end of the second or third post-treatment year appears to influence the rate of disappearance of the positive blood test reaction.

Treated neurosyphilis. Patients with neurosyphilis are given nine to 12 million units of penicillin. They then receive a lumbar puncture at three- or six-month intervals, depending on the degree of activity of the spinal fluid.

At least three tests should be performed on the spinal fluid; the cell count, total protein, and serology. The cell count is the most important single test and is the most sensitive indicator of the degree of activity of the syphilitic infection in the central nervous system.[7] Next in order of sensitivity is the total protein. The spinal fluid serology is essential for the diagnosis of neurosyphilis, and that is about all. It does not tell us whether the neural infection is active or inactive. The colloidal gold is a useful but not indispensable test.

Following treatment, the cell count, if initially elevated, must be within normal limits by the sixth month post-treatment; if not, the patient should be re-treated.

The total protein should show a beginning decline at six months after treatment, and by the twelfth month it should be well on its way down but not necessarily within normal limits. If this downward curve is not noted, it is best to re-treat.

The quantitative spinal fluid serologic test may show a decrease in titre at the end of the year but may not revert to negative for many years. Usually when the spinal fluid serologic titre is fixed at the end of the year or shows a decline of one tube or so, the patient is re-treated. Whether this re-treatment does anything to speed the reversal of the spinal fluid serologic reaction to negative is questionable—but the patient and the physician feel better with the re-treatment.

Other forms of late syphilis. Other forms of late syphilis respond to six million units of penicillin. Gummas will melt away and the beginning change can be noted within 48 hours. These patients with late syphilis, including those with cardiovascular involvement, may be started on full therapeutic doses. One need not fear the Herxheimer reaction or the therapeutic paradox.

Summary

Syphilis is on the increase nationally and in Massachusetts. The rise in reported syphilis has been noted in both clinic and private practice. An outline of the current treatment schedules has been described. Following this there was discussed the expected outcome of treated syphilis and the indications for re-treatment.

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ADENOMAS OF THE COLON and RECTUM

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The existing confusion about colorectal adenomas is largely the result of their variable biological behavior pattern—which is inevitable—and partly the result of the failure of many writers to state the precise basis for their diagnosis—which is avoidable. To eliminate the existing confusion concerning adenomas of the rectum and colon, it is imperative that writers on adenomas should refer to or state the criteria of their microscopic examination so that the reader will readily know the basis for their diagnosis. The clinician should effect a close liaison with the pathologist and the radiologist and use the same language. It would, of course, be ideal if the pathologists would agree among themselves as to the diagnostic criteria and would adopt a universal classification. Different pathologists frequently render contrary views on the same specimen. Thus, when a slide was submitted to four pathologists the following four diagnoses were suggested: (1) benign adenoma; (2) adenocarcinoma, Grade I, benign; (3) carcinoma in situ, and (4) atypical adenoma.

Added to these difficulties is the reluctance, even an aversion or taboo, on the part of some clinicians to insist on digital rectal and instrumental proctosigmoidoscopic examinations or to train themselves to perform these simple diagnostic procedures properly.

Classification

A complex classification is undesirable and unjustified. Considerable confusion is created by the use of such terms as "malignant adenoma" and "adenocarcinoma, Grade I" which at the same time are purported to connote a "benign" process. Infrequently, adenomas graded by some pathologists as adenocarcinoma Grade I or II have, upon reexamination of the slides, been regarded as benign by our pathologists. A two-year follow-up of 12 such cases failed to reveal the occurrence of cancer in 10 patients following the conservative disposition of the polyps, and in two patients who refused to have their adenomas treated. The term "carcinoma in situ," a new growth in which the malignant cells are situated within the area of the epithelium of origin, unfortunately carries the misleading connotation that this tumor may remain quiescent forever, instead of for a variable period of time. A more intensive search through multiple sections all too often reveals small foci of frank invasive cancer in specimens that masquerade as carcinoma in situ. Recently, an attempt has been made to discard the grossly descriptive term "villous" and to substitute for it the microscopically descriptive term "papillary." Unfortunately, papillary adenomas, though a justifiable pathologic description, are too readily confused with anal papillae which are benign fibroepithelial polyps. Nor does the term "papillomatous" appear to be an improvement. The present chaos of names has clouded our ideas and thoughts. These matters are not only of academic but also of practical import. Gross descriptive terms have effective teaching value. Because of these considerations, I have advocated this simple clinical classification of adenomas: (1) single or multiple (scattered —acquired or familial); (2) pedunculate or sessile; (3) smooth or villous, and (4) benign or malignant. These terms have vivid meanings to all clinicians.

Malignancy in adenomas is best described as noninvasive or invasive. The determining boundary line of invasion is the muscularis mucosae. Involvement of the lamina propria without invasion of the muscularis mucosae is not considered invasive cancer. The term "invasive adenoma" has been abandoned and superseded by the term "cancer" in order to avoid the misleading benign connotation. The term "premalignant or precancerous" has crept into the literature dealing with adenomas. It is believed that the concept of a "precancerous" lesion is essentially a statistical one indicating a greater probability of developing cancer. About the only precancerous aspect of the colon is the colon itself.

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Familial Tendency

Unlike familial polyposis, which is a heredofamilial disease transmitted by genes or caused by gene mutation and behaving as a Mendelian dominant and as both dominant and recessive in successive generations, neither solitary nor scattered multiple discrete adenomas of the colon are considered hereditary. However, our studies of two families, though extremely incomplete as many of the members of the involved families have not been examined, and recent studies reported by others, suggest that discrete solitary or scattered adenomas may occur in several generations of the same family. Four additional families are now under our scrutiny. For the present, these observations impose an almost impossible obligation on the clinician to perform sigmoidoscopy, and, if possible, also proper roentgenography, on all members of the family of patients with discrete adenomas of the rectum and colon.

Biopsy

In adults, I now decidedly advise against fractional biopsy: I practice "total biopsy" or the removal of the entire polyp at its base in one piece or in several large segments. The complete removal of an adenoma at its base is the primary and minimal justifiable course of action. Diagnostic temporizing with an adenoma by piecemeal removal of bits of tissue at various intervals of time amounts to halfway measures that are inexcusable.

In common with pathologists of experience, I maintain great reservations about the determination of the histologic character of adenomatous polyps solely with the use of a frozen section technique since the best pathologists can be deceived in both directions, the benign and malignant. As with other lesions, a benign-appearing adenoma in the frozen section may prove to be malignant in the paraffin or permanent section and vice versa. Mature and sound clinical judgment is therefore of incalculable value in these problems.

Pathology

Smooth Adenomas.—An adenoma is a pedunculate or sessile glandular structure showing proliferation of intestinal epithelium without invasion of the muscularis mucosae or lymph channels or blood vessels. Histologically, adenomas consist of hyperplastic, relatively mature or well-differentiated epithelial cells of uniform appearance supported by a central core of loose connective tissue. They contain stalks of varying numbers, sizes, shapes, and lengths, which differ from the normal colonic mucosa in which a single layer of cells lines the crypts and covers the surface. Some of the cells contain a rich complement of mucus and closely resemble normal colonic epithelium. Other cells contain little or no mucus, are stratified, and exhibit a fair number of mitoses. Unless secondary infection or ulceration has taken place, no significant inflammation is found in adenomas or their supporting tissues. However, when pronounced dedifferentiation is present, the lesion is considered an early, preinvasive or noninvasive malignant transformation, which may occur as a small focus (called carcinoma in situ by some authors). This reversion to the more immature or undifferentiated type of cell may be indicated by atypism, large vesicular mitoses, and excessive stratification. When there is invasion of the muscularis mucosae or of the blood vessels or the lymph tracts, the lesion is regarded as a frank carcinoma. The term "invasive adenoma" should be abandoned and superseded by the term "cancer" in order to avoid the misleading benign connotation, as already stated.

Villous Adenomas.—Villous adenomas originate in the cells of the surface epithelium in contradistinction to the lobulated polyp which arises from the cells lining the intestinal mucous glands. I have encountered enough (over 20) villous adenomas in patients in the third and fourth decades of life so as to seriously question their alleged occurrence only in the older-age group of patients. Also, I have quite frequently encountered the combination of villous and smooth areas in the same polyp (tumeur composée), especially in the short-pedicled polyp, as well as a combination of scattered pure villous and pure smooth adenomas in the same patient. The finding of small-sized pure villous adenomas is not exceptional. This is probably due to my special opportunity to endoscope patients early in the course of their disease, or these lesions are found incidentally during routine sigmoidoscopy. Some 10 per cent or more of the villous adenomas that I see are decidedly pedunculate (some have fairly long stalks). In my experience, the benign villous adenomas are as unequivocally benign as are their counterparts—the smooth adenomas. As in the smooth variety, malignancies in villous adenomas are differentiated unequivocally into noninvasive and invasive types (neither the presence of cell atypism [atypical changes] nor mitoses are considered indicative of clinical malignancy). Curiously, while for years I had encountered only a single villous adenoma with definite noninvasive malignancy, recently, in the course of only 10 days, I have observed three such instances. Parenthetically, because the solitary patient just alluded to was regarded as a poor surgical risk, he was treated conservatively without recurrence after a lapse of over three years. Except for the greater incidence of unequivocal invasive cancer observed at the time of the initial examination in large and small lesions, I have not seen any other features that would support the proposition that nonindurated or nonulcerating villous adenomas are more apt to undergo malignant degeneration; this is in agreement with Dukes' experience but in conflict with the experience of other authors. The finding of invasive cancer in a small villous lesion is not at all exceptional. In my experience the size of adenomas is no guarantee against cancer. The relationship of size of either villous or smooth adenomas to cancer is certainly not conclusive; it is however believed by some authors that the incidence of noninvasive and invasive cancer increases in the larger lesions. In one instance, a large villous adenoma was observed for over 15 years and was benign at necropsy after the death of the patient from totally unrelated causes. Large, but totally benign, villous adenomas (of more than 10 cm. in diameter) are encountered quite frequently.

It is believed by some authors that recurrence following any type of nonradical therapy is an outstanding feature of this lesion. In my experience, the recurrence rate of smooth and villous adenomas is about the same. Furthermore, repeated recurrences have also invariably been benign following removal of benign villous adenomas.

Of interest is the oft unrecognized observation that villous adenomas may produce a loss of large amounts of sodium and chloride that leads to fatal electrolyte imbalance or depletion. To date, I have not encountered such a situation.

Diagnosis

The diagnosis of adenomas situated within the reach of the sigmoidoscope is best made by endoscopy and "total biopsy." The polyp is removed at or with the base in toto or in several large segments for microscopy in order to detect promptly any small malignant foci within the adenoma or at its base.

For the detection of polypoid growths situated above the reach of the sigmoidoscope, main dependence is placed on preoperative radiography, on digital or manual transabdominal exploration during the course of operation, and on coloscopy, preferably with insufflation. On occasion it is desirable to examine the lumen of the colon through a long incision. In the hands of capable roentgenologists or gastroenterologists, special roentgenological techniques have real merit, while the standard barium enemas leave very much to be desired, particularly as far as the detection of small adenomas is concerned. The differentiation of fictitious from true polyps is sometimes most difficult. Surgery should not be used for polyps situated beyond the reach of the sigmoidoscope unless two consecutive roetgenray studies of the colon reveal the lesion in the same relative position. As already stated, close co-operation between the roentgenologist and the proctologic surgeon should be maintained and is as essential as the latter's co-operation with the pathologist.

Cancer Potential

The question of metamorphic forces or transition from adenoma to carcinoma has been studied in various ways. Some fourteen years ago, I observed adenomatous tissue in adenocarcinomas in sixteen out of one hundred fifty consecutive colorectal specimens, *suggesting* that cancer in *these 16 cases* might have arisen in benign adenomas. The incidence of transition of adenoma to cancer was presumed to be even higher because of the known fact that the progression of malignant process may destroy the original architecture of a benign adenoma beyond microscopic recognition. Furthermore, 37 of these 150 surgical specimens revealed concomitant adenomas varying in number from one to five; almost all of these were less than 0.5 cm. in diameter. A more recent, as yet incomplete, study shows a higher incidence largely because the surgical specimens removed consist of longer segments of adjacent colon than did the specimens obtained a decade and half ago.

The inexpert is understandably confused and perplexed, because at one extreme there is the published guess, practically impossible to verify scientifically, that "all polyps of the colon are cancers (carcinomas) or will become cancers if they are not destroyed and if the patient lives long enough." At the other extreme, is the belief that rectal adenomas are either malignant initially or tend to become malignant very early and that they do not become malignant over the course of time. This latter belief was based on a five to 11 year follow-up clinical study of 43 patients who had refused to have their adenomas removed; this group of patients was compared with 117 individuals whose adenomas had been extirpated. The former group of patients did not develop more cancers during a period of five years than those patients who had their adenomas extirpated. A more recent study showed no conclusive evidence that benign adenomas undergo transition to cancer. However, the same authors have found that cancer of the colon and rectum occurs "with five times greater frequency in polyp patients than in normal individuals (10.4 per cent versus 2.1 per cent)", and "that patients with multiple polyps are twice as likely to develop carcinomas as individuals with a single polyp."

The theory that adenomas transform into invasive metastasizing cancer of the colon has recently been questioned by Spratt, Ackerman and Moyer. These investigators presented evidence to show that the annual incidence of carcinoma of the colon (45 per 100,000) can be accounted for by the frequency with which adenocarcinoma arises in nonpolypoid colonic mucous membrane without involving the theory of the origin of adenocarcinomas of the colon minus adenomatous polyps. The frequency of distribution of adenomatous polyps and cancers of the colon are not the same. Adenomas are more evenly distributed throughout the colon than are adenocarcinomas, and the unit percentile frequencies of cancers are higher than those of adenomas in the cecum, sigmoid colon and rectum, and lower than those of polyps in the other parts of the colon. Among 425 of their adenomatous polyps 43 contained cells with the microscopic appearance of cancer with but one of the 43 having the abnormal cells questionably infiltrating the polyp stalk. Among 325 cancers of the colon no residuum of adenomatous polyp was seen. According to these authors there appears to be little evidence for and much against the theory that adenomatous polyps degenerate into infiltrating, metastasizing carcinomas of the colon. These studies of course require confirmation.

Cole, O'Hara and Holden explained the increased survival rate of patients with carcinoma of the colon with associated polyps by host resistance. A group of 59 patients with adenocarcinoma of the colon or rectum but without adenomatous polyps had a six-year survival rate of 46 per cent; a group of 28 with histologically proved adenomatous polyps had a 75 per cent survival incidence. In patients with lymph node metastases, there was 50 per cent survival in the group with adenomas and 25 per cent in those without polyps, suggesting greater resistance in the presence of polyps. The longer duration of symptoms in the polyp group is similarly interpreted. When adenomas coexist with frank adenocarcinoma there is a demonstrable and statistically significant increase in survival time.

Womack believes that colonic adenomas "are not specific separate benign tumors, but are actually neoplasms whose growth potential has been altered by environmental factors. Too often they or new lesions eventuate into frank clinical cancer. Thus they are not premalignant lesions, but actually are cancers in an early stage of progress."

I have observed the occurrence of cancer in the site of benign adenomas in four patients after a lapse of about three to four years. Interestingly, the sister of the fourth patient has harbored an adenoma for over 15 years which has remained benign. These observations are however not considered conclusive because they were based on the examination of tiny bits of tissue removed with the biopsy forceps from the summit of the adenoma, a procedure I NOW regard as totally unsatisfactory. It should be stressed again and again that only by total removal can the true pathologic nature of the adenoma be determined accurately. On the other hand, I have under observation four additional patients who have been known to have benign adenomas for over 15 months, and 13 others with benign adenomas of from three to 11 years' duration who have thus far declined treatment (including one with a villous large adenoma) in whom there is still no clinical evidence of cancer. In the present state of incomplete knowledge of the variable biological behaviour pattern of adenomas, I agree that while colorectal adenomas in some individuals have a propensity to undergo malignant transformation, adenomas in other persons may nevertheless remain benign. However, since there are no gross or microscopic criteria that will enable the proctologic surgeon or the pathologist to predict a benign course for a given benign adenoma or when malignant transformation might be expected, I advise extirpation of all colorectal adenomas upon recognition even if only a *minority* of colorectal adenomas do become cancers. The only exception to this policy are systemic contraindications and patients whose longevity is not expected to exceed six to 24 months.

Treatment

Therapy involves a highly technical discussion. For this reason the reader is referred to our Diseases of the Colon and Anorectum for profusely illustrated techniques and considerations (Saunders, 1959).

Adenomas and Inflammatory Disease

In long-standing ulcerative colitis, inflammatory projections (described in 1881 by Woodward as pseudopolyps), true adenomas, or cancer may be observed. A solitary adenoma located within the reach of the sigmoidoscope that occurs in association with ulcerative colitis or amebic dysentery is managed in the same manner as are adenomas in uninflamed colons. However, when located above the reach of the sigmoidoscope or when multiple, they are best eradicated by colectomy because the chances of the development of malignancy are compounded by two cancer potentials, namely, that of the colitic process and the possible propensity of adenomas to undergo malignant transformation.

Juvenile Adenomas

In a recent publication I restated that the morphology of discrete adenomas of the colon and rectum in infants and children is similar to that of adults except for the greater amount of connective tissue stroma with cyst-like glands in the center and a greater amount of inflammatory cell infiltration with a preponderance of eosinphils in some patients. The adult type of adenoma is occasionally encountered in children as is the juvenile type in an adult. I have never observed malignancy in juvenile adenomas thus confirming Helwig's as well as Ackerman's observations. Other authors agree that the colonic and rectal adenomas in juvenile patients are benign lesions with a characteristic histologic picture. It has been stated that the finding of an adult-type of adenoma in children should arouse the suspicion of the presence of multiple polyposis.

As to the malignant potential in juvenile adenomas an open mind should be maintained because theoretically malignant transformation is a remote possibility. I am however prejudiced against this thought because none has been encountered to date in an experience with over 150 clinic and private cases. Concurrence is difficult that any three (or even all four) of Gordon's et al criteria (1) stratification of epithelial cells with hyperchromatic nuclei; (2) mitotic activity; (3) absence of goblet cells, and (4) presence of large nuclei are sufficient for the diagnosis of malignancy in adenomas of children. Students of this subject agree that "the potential of malignant transformation in polyps of the rectum and colon in children is probably no greater than that of normal rectal or colonic mucosa." As in adults, the term adenocarcinoma, Grade I, is misleading and should be dropped from any discussion of adenomas. As in adults, it appears that not all pathologists agree as to the precise diagnostic histological criteria of malignancy; in some doubtful cases some pathologists render a diagnosis of malignancy largely for fear of missing one. Parenthetically, the occurrence of the adult-type of adenoma in children may be misinterpreted as a malignancy.

The treatment of juvenile adenomas is practically the same as in adults. Radical procedures are unnecessary as malignancy in solitary adenomas occurs rarely indeed, if ever.

Familial Polyposis

This is a heredofamilial disease transmitted by genes or caused by gene mutation and behaving as a mendelian dominant so as both a dominant and recessive in successive generations. Subtotal or total colectomy is the proper therapeutic procedure. For the genetic aspects and the cancer potential, please consult our Diseases of the Colon and Anorectum.

Geriatric Aspects

Adenomas of the terminal colon that are within the reach of the sigmoidoscope should always be removed promptly upon recognition. Special caution should be used in application of electrothermia, particularly in the employment of the high-frequency snare, because of the presence of sclerotic vessels in the pedicle. Low intensity coagulating spark-gap current is applied and the pedicle is strangulated very gradually before it is finally severed. Tube current alone is best avoided. Symptomatic adenomas that are situated above the reach of the sigmoidoscope should also be removed promptly. However, senescent patients with asymptomatic adenomas located above the reach of the endoscope that are found incidentally on roentgen-ray examination should be individualized. Surgical therapy is sometimes withheld in very aged patients who can be followed by means of periodic roentgenoscopy.

The Peutz-Jeghers Syndrome

In the Peutz-Jeghers syndrome polyps have been found in the entire alimentary tract but most often in the jejunum. These have produced two outstanding symptoms, namely, bleeding with varying degrees of iron-deficiency anemia, and bouts of abdominal pain produced by a succession of either acute, subacute or chronic episodes of small intestinal intussusception. The abdominal symptomatology is frequently very fleeting. The presence of pigmentation cinches the diagnosis as roentgenography of the small intestine is frequently inconclusive or outright of no help. Intussusception, especially if recurrent, leads to laparotomy and unnecessary intestinal resection.

The pigmentation appears as melanin spots usually on the lips and the oral mucous membrane, but may also involve the palms and soles and their appendages. This syndrome is inherited as a simple mendelian dominant (gene), although sporadic cases have been reported. It is hereditary and familial. Since its latest rediscovery in 1949 by Jeghers, McKusick and Katz this syndrome has become a definite clinical entity but with many unsolved problems.

Parenthetically, it should be remembered that pigmentation caused by the deposition of increased amounts of melanin may be perhaps physiological in some cases; may be present in the familial form of polyostotic fibrous dysplasia (Albright's disease), or may follow the administration of certain drugs such as quinacrine hydrochloride.

Because of the extremely rare or the apparent absence of a cancer potential in these polyps, conservative surgical therapy is justified (S. Clin. North America, 39: 1309, Oct. 1959).

A CLINICAL EVALUATION of the Therapeutic Application of Antibiotic Combinations

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The addition of one antibiotic to another was started almost as soon as two such agents became available. Shortly after streptomycin was developed, it was mixed with penicillin and the combination recommended for clinical use, especially in situations in which the definitive etiology was not readily apparent. With the advent of each new antimicrobial agent, with the development of drug-resistant bacterial strains, and with the reports of enhanced in vitro antibacterial activity of combinations of antibacterial compounds, there has been a remarkable expansion in the number of different antibiotics which are being put together in "fixed dose" forms. The rapidity with which these are appearing and being recommended for clinical use is startling. In practically all instances the bases for their preparation have been (a) in vitro studies suggesting increased antibacterial effectiveness as compared to single agents, and (b) test-tube evidence indicating a decreased rate of emergence of drug-resistance in exposed organisms.

It has recently been pointed out that "in vitro tests which have been studied up to the present time have correlated very poorly with the clinical results" and that a mixture of antimicrobial agents has been demonstrated to be superior to a single one in very few instances.[1] Most investigators in the field of chemotherapy of infection concur in these views. The readiness and enthusiasm with which many physicians have accepted the claims made for such mixtures and are using them in practice are remarkable because, with few exceptions, there is a striking lack of critically evaluated and carefully controlled data in support of their use in the treatment of disease.

The field of combined antibiotic therapy is confused at the moment. Physicians are being bombarded on one side by claims of superior effectiveness of combinations and, on the other, by an increasing number of comments in the medical literature that they are of little or no value or even dangerous. It is the purpose of this paper to summarize briefly and to evaluate critically the available data regarding the therapeutic applications of antibiotic combinations and to indicate the areas in which they appear to be superior or inferior to single agents.

The simultaneous administration of more than one antimicrobial agent has been suggested for seven purposes: (a) Treatment of mixed bacterial infections. (b) Suppression of the "toxic" effects of antibiotics. (c) Reduction of the total required dose of a drug or duration of therapy. (d) Removal of superficially located bacteria. (e) Delay in the rate of emergence of bacterial resistance. (f) Enhancement of therapeutic activity. (g) Therapy of severe infectious processes in which the specific etiology has not been established.

Treatment of Mixed Bacterial Infections

In some infections, two or more organisms acting together constitute the etiology of the disease. Bronchiectasis, peritonitis, and some instances of acute or chronic otitis media and urinary tract infection are examples. In some cases, the responsible bacteria, although of different species, may be sensitive to a single antimicrobial agent, while in others they have distinctly different drug susceptibilities. This emphasizes the need for determination of the drug-sensitivity of each of the components of a mixed flora. With rare exception, such information should be at hand before therapy is initiated. It must be stressed that each organism should be studied separately because testing of mixed cultures may produce very misleading information. The antibiotics to be given are selected on the basis of these studies and administered in *full doses.* In some cases it may be unnecessary and even dangerous to delay initiation of treatment until definitive bacteriologic data is available. Peritonitis is an outstanding example. Because both gram-positive and negative organisms may be acting synergistically to produce this disease and because delay in therapy may result in a rapidly fatal outcome, treatment should be started immediately with maximal quantities of the antibiotics known to be most effective against these types of bacteria. Many clinicians prefer to give penicillin (5 to 10 million units per day) together with streptomycin (1 to 2 gms. per day). In bronchiectasis and in chronic otitis media and urinary tract infections, therapy need not be initiated before diagnostic bacteriologic information becomes available because these infections have usually been present for such a long time that a delay of two or three days makes little or no difference in their outcome. This principle does not apply, however, when acute exacerbations of the chronic process develop. Combinations of antibiotics do not always lead to cure of an infectious process even when the responsible organisms are sensitive to the individual drugs in the mixture; this is best illustrated by chronic urinary tract infection in which it is known that combined therapy does not improve the outlook for recovery.

Reduction of "Toxic" Effects of Antibiotics

It has been suggested that when certain antibiotics are combined smaller than the usual quantities of each may be administered without decreasing the desired degree of antibacterial activity and that this results in a reduction in the incidence of untoward reactions. Such claims have been made particularly for mixtures of streptomycin and dihydrostreptomycin. The former injures the vestibular and the latter the cochlear portion of the auditory nerve. Combinations of equal amounts of the two drugs administered in a daily quantity equal to that of either antibiotic given alone have been reported to be less toxic than full doses of the single agents. More recent experience[15] has indicated, however, that deafness occurs considerably more commonly with the drug combination than with full therapeutic quantities of streptomycin, indicating that reduction of dose does not eliminate the risk of loss of hearing when dihydrostreptomycin is given.

Although there is no evidence that the incidence of hypersensitivity reactions to single drugs is increased by combining them with others, difficulty may arise as a result of simultaneous sensitization to all of the compounds in a mixture. When this occurs it is obviously impossible to determine which one of the drugs is responsible, and treatment often has to be stopped. This may result in serious difficulty if the organism responsible for the infection is susceptible only to the agents included in the combination. Such a possibility is a strong argument against the use of antibiotic mixtures except in instances in which they have been proved therapeutically superior to single agents.

Superinfection, the appearance of bacteriologic and clinical evidence of a new infection during the antibiotic therapy of a primary one, is a common and potentially very dangerous complication of antibiotic treatment. The more "broad" the antibacterial activity of a single drug or combination of agents, the greater is the possibility that a single component of the normal microbial flora in the upper respiratory or intestinal tract will become predominant, invade, and produce disease.[2] The largest number of superinfections are observed during the administration of "broad-spectrum" antibiotics and mixtures of these agents. This phenomenon is an important contraindication to the use of drug combinations in any situation in which they are not necessary. This is emphasized by the fact that many superinfections are due to organisms (Proteus, Staphylococcus, yeasts, fungi) which are often difficult or impossible to eradicate with the presently available chemotherapeutic agents.

Some antibiotics produce adverse metabolic effects.[3] The administration of chlortetracycline (Aureomycin) to undernourished adults in a daily dose of 2.5 to 3.0 gms. orally, results in loss of body weight, increase in urinary excretion of nitrogen, negative nitrogen balance, and elevation of nonprotein nitrogen in the blood. Similar changes have been produced by oxytetracycline (2.5 to 3.0 gms per day) and chlortetracycline (1 gm. per day). Increased urinary excretion of riboflavin, tryptophane, histidine, and threonine may follow the use of Aureomycin. These observations raise the question whether other antimicrobial agents may also produce deletrious metabolic effects. Although no data are available, the possibility that interference with normal metabolic processes may be intensified by the administration of two or more antibiotics at one time must be considered.

Reduction of Dose of Drug and/or Duration of Therapy

It has been suggested that the simultaneous administration of penicillin and streptomycin in subacute bacterial endocarditis due to an organism sensitive to both of these agents permits the use of smaller doses of penicillin and allows reduction of the period of therapy from the usual four to two weeks. This type of therapy requires more confirmation, however, before it can be recommended for general adoption in the management of this disease. Although the risk is probably small, the possibility of damage to the auditory nerve as a result of the administration of streptomycin must be considered. The use of antibiotic combinations to reduce total dose of drug and duration of therapy has also been recommended in brucellosis. Whether this principle is applicable in other infections is not known. It is important to point out that therapy for these purposes should be used with caution since, as will be discussed below, the level of antimicrobial activity of a mixture of antibiotics is often unpredictable and may, in fact, be lower than that which obtains when a single drug is given in full therapeutic dose. For this reason, the writer still uses single agents, whenever possible, in cases of subacute bacterial endocarditis and continues treatment for a minimum of four weeks.

Removal of Superficially Located Bacteria

The use of antibiotic combinations has been recommended for treatment of superficial infections, as of the skin for example, especially when these are due to more than one species of bacteria. On this basis, mixtures of neomycin, polymixin, and bacitracin have been applied topically because these agents possess a low level of sensitizing capacity. Some dermatologists have pointed out the lack of evidence in support of such therapy, however. Clinical study has demonstrated that the vast majority of superficial infections respond adequately to the use of single antibiotics; this applies even to localized staphylococcal infections.

The area of superficial "infection" in which combined therapy appears to be superior to single agents is the intestinal tract. The degree of reduction in the number of organisms in the bowel flora has been found to be greater when a combination of neomycin and polymyxin is administered orally than when either is given alone. The same is true for polymyxin and streptomycin.

Delay in Rate of Emergence of Bacterial Resistance

In vitro studies have demonstrated that when an organism is exposed to two antibiotics at the same time, the development of resistance to each drug is appreciably delayed but not completely inhibited; this is true only when sensitivity to both agents is present. The same phenomenon is observed, to a limited degree, with sulfonamide-antibiotic combinations. With these, the bacteria usually retain their susceptibility to the antibiotic but gradually become insensitive to the sulfonamide.[4]

Clinical investigations have indicated that delay of emergence of antibiotic resistance is produced by combinations of antimicrobial drugs in some types of infection but not in all. Thus, it is now well established that the concomitant administration of two or more drugs suppresses strikingly the development of resistance in the tubercle bacillus. Tuberculosis is best treated, therefore, with at least two and in some instances (miliary tuberculosis and tuberculous meningitis) with three tuberculostatic agents simultaneously.

In a study of *Hemophilus influenzae* meningitis treated with streptomycin alone (intrathecal and intramuscular) it was found that about thirteen per cent of the strains of the organism became resistant to a concentration of drug greater than 1000 micrograms per ml. within 48 to 72 hours after the start of therapy, although they had initially been highly sensitive. In a large group of cases treated with streptomycin in the same manner and, in addition, full doses of sulfadiazine or sulfisoxazole (Gantrisin), not a single instance of drug-resistance was encountered.[4]

It is the present practice to treat all systemic staphylococcal infections with more than one antibiotic; chloramphenicol and erythromycin constitute the most commonly used combination. The need for this type of therapy has recently been questioned, however, because evidence that *Staphylococcus aureus* becomes drug-resistant *in vivo* is difficult to substantiate. In "closed" infections, bacterial endocarditis for example, the administration of a single potent antibiotic does not usually lead to the appearance of insensitive staphylococci. In "open" infections such as wounds or pneumonia, on the other hand, resistance appears to develop. It has been postulated that this is not due to a change in the organism responsible for the infection initially, but results from the introduction of a new drug-insensitive strain from the patient's environment. In accordance with this concept, some physicians are now treating staphylococcal infections with a single effective drug. It must be pointed out, however, that until it has been definitely proved that combined chemotherapy is not necessary for certain types of staphylococcal infection, it is best to use more than one antibiotic in the treatment of all forms of this disease. Clinical experience suggests that when this is done, the appearance of resistant strains is a relatively uncommon problem. Combinations of drugs may be effective in preventing the implantation of new strains or eradicating them if they have managed to gain a foothold. When more than one drug is administered, the infecting organism must be sensitive to both agents.

It has recently been reported that the routine use of antibiotic combinations does not prevent the appearance in a hospital of strains resistant to the drugs in the mixture. In this study, patients were given full doses of novobiocin and spiromycin routinely. Despite the fact that neither agent was ever administered alone, novobiocin-resistant strains began to accumulate by the end of two months. After three months, spiromycin-resistant organisms appeared. Some of the bacteria were insensitive to both antibiotics. By the end of six months, 20 per cent and 30 per cent of the isolates were spiromycin and novobiocin-resistant respectively; these accumulated in individuals who were themselves not receiving the drugs.[5]

Enhancement of Antibacterial Activity in Treatment of Specific Infections

Increase in antibacterial activity and clinical effectiveness results from the application of antibiotic combinations in some but not all infections. In many, a lack of enhancement of or even decrease in therapeutic efficiency has been observed when combinations of drugs have been employed. It has recently been demonstrated that the degree of antibacterial activity of the blood of patients given an antibiotic mixture may be no greater or may even be less than that which results from the use of the most potent single drug in it. In view of this evidence, it is surprising to find that combinations of antimicrobial agents have been employed most often in clinical practice for the therapy of infections in which their superiority to a single agent has not been established. An attempt will be made in this part of the paper to analyze briefly the available data in this area of chemotherapy and to point out the situations in which combinations of drugs appear to be more effective and those in which they have been proved to be less active than a single drug. In addition, the results of studies of the antibacterial activity of serum following the administration of antibiotic combinations and their separate components will be summarized.

A. *Infections in Which Combined Antibiotics are Superior to Single Agents*

The outstanding example of the superiority of combined chemotherapy over treatment with one antibiotic is tuberculosis. When streptomycin alone is used for the therapy of fibrocavernous pulmonary tuberculosis, the results are not very good. The same is true when the other common tuberculostatic agents—isonicotinic acid hydrazide acid and para-aminobenzoic acid—are given alone. On the other hand, combinations of any two of these drugs have produced a high cure rate in this type of disease. Even more striking is the high degree of effectiveness of combined treatment in miliary tuberculosis and in tuberculous meningitis. When streptomycin alone is used in meningeal infection, the survival rate is usually less than 30 per cent in patients followed for a sufficiently long period; with simultaneous administration of all three tuberculostatic agents this is increased to about 85 per cent. The prognosis of miliary tuberculosis is also markedly improved by combined tuberculostatic therapy.

Although, as pointed out above, combined antibiotic treatment of subacute bacterial endocarditis is not recommended by the writer as a routine procedure, some cases required this kind of therapy. This is the case in those in which the causative agent is a group D streptococcus or enterococcus because these organisms, while resistant to streptomycin or penicillin alone, are highly sensitive when exposed simultaneously to both drugs.

Brucellosis appears to respond best when treated with tetracycline plus streptomycin.[6] Duration of therapy is important, however. Thus, when Aureomycin, or Chloromycetin are used alone for a period of 12 days, the relapse rate is about 77 per cent: the simultaneous administration of streptomycin and Aureomycin for three weeks reduces this to 18 per cent. That duration of treatment is of some importance is emphasized by the fact that the number of relapses is only 10 per cent when Terramycin alone is given for six weeks.

It is the writer's practice to treat influenzal and pneumococcal meningitis with combined chemotherapy; streptomycin plus a sulfonamide for the former and penicillin together with a sulfonamide for the latter, despite the fact that no penicillin-resistant pneumococci have been described; clinical experience has dictated the addition of the sulfonamide. This requires the intrathecal introduction of the antibiotic. One intraspinal injection of streptomycin is given in influenzal and three of penicillin (at 12 hour intervals) in peumococcal infections of the meninges. With this therapy, the fatality rate for the latter disease has been approximately nine per cent over the past 10 years. Eighty cases of *H. influenzae* meningitis have been treated with intrathecal and intramuscular streptomycin plus sulfadiazine or sulfisoxazole without a single death or complication. In most clinics the preferred treatment for *H. influenzae* meningitis is chloramphenicol plus sulfadiazine and for pneumococcal meningitis is penicillin, one million units intramuscularly every two hours, without intrathecal administration.

The best therapeutic results in infections due to *K. pneumoniae* (Friedlander bacillus) are thought to follow the use of combinations of antimicrobial agents. Large doses of chloramphenicol plus streptomycin, or a combination of chlortetracycline (Aureomycin), oxytetracycline (Terramycin) and chloramphenicol (Chloromycetin) have been used. Most important is the early recognition of this type of disease and the rapid institution of therapy.

B. *Infections in Which Certain Combinations of Antibiotics are Inferior to Single Agents*

The addition of a "broad spectrum" antibiotic to penicillin in the treatment of pneumococcal meningitis yields a therapeutic result distinctly inferior to that which follows the administration of penicillin alone. In one study, the fatality rate in patients receiving only penicillin was 30 per cent; of those given penicillin plus Aureomycin, 79 per cent died.[16] A comparison of the treatment of *H. influenzae* meningitis with Aureomycin alone and with this agent plus streptomycin and sulfisoxazole (Gantrisin) has revealed that the fever declines at a slower rate and the number of cells in the cerebrospinal fluid remains at high levels for a longer period of time with combined therapy. A deleterious effect on the course of scarlet fever has been noted when a combination of penicillin (250,000 units orally every eight hours) and Aureomycin (0.5 gm. by mouth every 12 hours) has been used. Although there was no difference in the clinical response, the speed and magnitude of return of streptococci after stopping treatment was greatest with Aureomycin, least with penicillin, and intermediate with the combination of these agents. These observations suggest that Aureomycin antagonizes the bactericidal effect of penicillin.

C. *Antibacterial Activity of Serum Following Administration of Single and Combined Antibiotics*

A valid experimental approach to the study of the *in vivo* activity of antibiotic combinations versus single agents is the determination of the antibacterial capacity of the blood of patients receiving the drugs. The procedure is as follows: Individuals are given antibiotic A and their serum obtained at specific intervals after medication. The same is done, after a suitable rest period, with antibiotic B and then with the combination of A and B. The patient serves as his own control and the data obtained indicate whether an additive, synergistic, depressed, or intermediate effect is produced when the drugs are combined.

A series of studies using the technique described above has been reported.[7, 8, 9, 10, 11, 12] These are of the greatest clinical importance because they have dealt with "fixed dose" combinations, the form in which commercially prepared antibiotic mixtures are available to the practicing physician. The following results have been obtained: Combinations of penicillin and oleandomycin, of penicillin V and tetracycline, and of erythromycin or spiromycin or oleandomycin with tetracycline yield degrees of antibacterial activity which are less than those produced by the better of the two drugs in the pair but greater than those which follow the administration of the poorer agent. When penicillin is given together with chloramphenicol (Chloromycetin) no decrease or increase in bacterial inhibition is noted. The unpredictability of the degree of antimicrobial activity is striking. This feature alone makes it difficult to make any generalizations concerning "fixed dose" antibiotic combinations except that, as a rule, they are not as good as the most effective agent which they contain.

In addition to their decreased antibacterial effectiveness, "fixed dose" combinations of antibiotics have another serious drawback. They do not allow the physician to choose the dose of agent which may be most desirable. Thus, in order to give an adequate quantity of one of the drugs in a mixture he may have to administer a potentially dangerous excess of the other. For example, if one desires to treat a patient with a large dose of penicillin and elects to do this by the use of a "fixed dose" penicillin-streptomycin combination, he will be exposing the individual to an excess of streptomycin and increasing the risk of damage to the auditory nerve; this is especially serious if the mixture contains dihydrostreptomycin.

The present views concerning "fixed dose" antibiotic combinations have been best expressed by Finland: "Combinations encourage the use of inadequate treatment, since there is an inevitable tendency to use the same total dose of the combination as of the single agent, and this does not provide the expected effective dose of either, particularly of the inferior drug. They provide a false sense of security as offering a wider coverage or broad spectrum of activity when in fact they provide a narrower effective coverage by substituting less active agents and smaller amounts of individual agents than if antibiotics were chosen individually each for its own purpose and given in the proper dose for that purpose. They reduce the therapeutic effectiveness that might be expected from proper dosage of individual agents or from the proper selection of combinations of agents according to specific requirements, particularly when care is taken to choose only agents that may be expected to be the most active against the causative organism."

Therapy of Severe Infections in Which Specific Etiology is Unknown

The commonest use of antibiotic combinations is for the treatment of infections the etiology of which is not immediately apparent. The physician with a patient whom he suspects of having an infection often decides that chemotherapy is necessary. Because the exact cause cannot be immediately determined, more than one agent is given in the hope that this will "cover" the situation: "fixed dose" mixtures are very often used for this purpose. In not a small number of cases, the infectious process is due to some virus and the application of any antimicrobial agent is not indicated.

In some instances, the administration of antibiotic combinations results in a broadening of antibacterial activity. Recent unpublished observations indicate that such an effect can indeed be produced by the use of two drugs. This has been proved for combinations of penicillin and streptomycin and of erythromycin and Gantrisin. It must be emphasized, however, that this phenomenon has followed the use of *full therapeutic doses* of each drug. The data which have been obtained do not apply to "fixed dose" preparations because these have not been studied. If "full dose" combinations are to be given in the absence of a specific bacteriologic diagnosis, the physician must decide, on the basis of the clinical features of the disease, a detailed history, and laboratory investigations including examination of stained preparations, if possible, not only that a patient has a bacterial infection but also the type of organism which is most likely to be involved. *Under no circumstances must chemotherapy be initiated until all of the necessary bacteriologic investigations have been started:* cultures take only a few minutes and cause no significant delay in starting treatment.

It has been the writer's practice to give penicillin plus streptomycin, *in full doses,* in instances in which the clinical features of a disease are highly suggestive of a bacterial infection but in which the specific etiology is not immediately definable. When the possibility of staphylococcal invasion is suspected, full therapeutic quantities of erythromycin plus chloramphenicol are administered. In the management of purulent meningitis in which the bacteriologic etiology is obscure, every effort is made to arrive at a presumptive diagnosis by considering the age of the patient, the nature of the prodromal manifestations, the character of the onset of the illness, and the focus from which the meningeal infection arose. With such information, it is very frequently possible to arrive at an adequate etiologic diagnosis, to initiate treatment with no more than two antibiotics simultaneously, and to avoid the administration of three or four antibiotics at one time, a commonly used but deplorable chemotherapeutic maneuver. It must be stressed that the initiation of an antibiotic program should not commit the physician to its continuance if specific data indicating the necessity of a change become available. If bacteriologic studies and sensitivity tests indicate that some drug other than those being used is more effective, this should be given promptly, especially if the clinical response has not been optimal. Every effort should be made to treat patients with single antimicrobial agents in maximal therapeutic doses. No one has yet devised a combination of antibiotics, regardless of the number of agents included, that will cure all infections: there probably will never be such a panacea.

Summary and Comments

There is no doubt that antibiotic combinations produce better therapeutic results than single antimicrobial agents in some infections. It must be stressed, however, that, with one exception (Group D streptococci), this is true only when the organism responsible for a disease is sensitive to each of the drugs in the mixture and when each of the antibiotics is given in full dose. There is also no doubt that the outcome of other infections may be seriously compromised by giving more than one antibiotic at a time. Combinations are probably of value in the therapy of some mixed bacterial infections. They delay the emergence of drug-resistance in exposed bacteria *in vitro;* there is some evidence that this also occurs *in vivo* in certain situations. The necessity of combined chemotherapy in systemic staphylococcal infections is, at the moment, an unsettled point. There is little or no evidence to support the contention that mixing of antibiotics results in a reduction in the risk of development of toxic effects. As a matter of fact, if the whole range of untoward reactions to antimicrobial agents is considered, combinations of drugs appear to be more dangerous than single agents. Although there is some evidence that the simultaneous administration of two antibacterial compounds may allow a decrease of the total dose of an antibiotic and shortening of the period of therapy, the writer is presently not in favor of such management in subacute bacterial endocarditis. The removal of superficially located bacteria, particularly those which constitute the intestinal flora, is enhanced by the administration of more than one antibiotic at a time. There is no denying the occasional necessity for administering combinations of antibiotic agents to patients suspected of having bacterial infections the exact etiology of which is not immediately apparent. It must be stressed, however, that the physician should select the drugs (preferably not more than two) which on the basis of the clinical picture appear to offer the greatest possibility of yielding the desired "broad" effect, and should not administer them until all of the necessary bacteriologic studies have been carried out.

The most important problem in the field of combined chemotherapy is the use of "fixed dose" mixtures. On the basis of the presently available knowledge, it appears patently clear that these compounds have no place in the treatment of infection. The attitude which physicians should adopt toward these preparations has been suggested in an editorial recently written by a group of investigators and teachers in the field of infectious disease:[13] "Considerable caution is warranted in accepting the trend to fixed antibiotic combinations as inevitable or in lending support to a trend that may not be desirable. We would be remiss in our duties as physicians, teachers, and investigators were we to encourage, adopt, and recommend the use of new agents that we cannot consider to be as good as, or no better than those previously shown to be good even if they are legally certified. It is particularly incumbent on us to be very circumspect about the use of drugs of any sort in fixed combinations that do not offer the physician discretion as to choice of components or of a new or unproved component or of a substance that may be inferior to others that might well be used instead, should make us even more cautious. They should be recommended and adopted, if at all, only after adequate, carefully controlled, and critically evaluated study shows them definitely to be useful and superior." Another editorial writer, in discussing "fixed dose" antibiotic combinations, has expressed the opinion that: "The encouragement of the so-called 'newer era of antibiotic combinations' and the manner in which it is being exploited represent a major backward step in the management of infections."[14]

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ADVERSE DRUG REACTION

— Early recognition of the nature of a reaction and the prompt institution of treatment is essential —

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  Accelerated (anaphylactic) reaction
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    Asthma, nasal allergy, urticaria
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    The ID reaction
    Exfoliative dermatitis
    Neurologic manifestations
    Other drug reactions probably allergic
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Introduction

Today, one of the most serious problems facing physicians who prescribe or administer medications is the occurrence of unintended, adverse drug reactions. Unfortunately, such adverse reactions are being seen in increasing numbers and may be a major cause of iatrogenic illness and sometimes of even death, itself. What are the chief types of unintended adverse reactions commonly seen? Are any of these reactions of serious prognostic significance? How may these be detected early and stopped before more serious effects develop? How may such adverse drug reactions be prevented? These and many other related questions arise daily in the practice of medicine. Because of the importance of adverse drug reactions as a complication of the use of medications, I have outlined some of my own observations, experiences, and interpretations which I hope may be useful to the practicing doctor.

Therapeutic Agents Causing Adverse Drug Reactions

The list of drugs which may cause adverse reactions is a very large and diversified one. A few examples of such drugs are: aspirin, antipyrine, bromides, iodides, morphine and its derivatives, belladonna, quinine, cocaine, compounds containing gold or mercury, strychnine, phenolphthalein, barbiturates, sulfonamides, phenothiazine tranquilizers, meprobamate, dinitrophenol, insulin, liver extract, pituitrin, penicillin and other antibiotics, ACTH, estrogens, antirabies and other vaccines, and hydralazine. We do not know why the injection of a drug in combination with substances such as beeswax or oil has a tendency to increase their antigenicity and produce sensitivity. This may be due to the fact that the addition of the adjuvant acts as a depot from which the drug is slowly absorbed; or it may be that the local inflammation thus produced attracts antibody forming plasma cells to the local area.

Definition

Clinical manifestations which are adverse, undesirable and unintended and which accompany the administration of a drug are referred to as drug reactions. Adverse reactions which accompany or follow the administration of drugs may be divided into non-allergic and allergic. Non-allergic reactions include the following: side effects, drug toxicity, drug intolerance, drug idiosyncrasy, the Schwartzman phenomenon, histamine releasing phenomena, and genetically conditioned-drug induced hemolysis of red blood cells by primiquine and related drugs.

Incidence of Drug Allergy and Antigenicity of Drugs

Each year that goes by proves that the incidence of drug allergy is on the increase and a vast literature on this subject supports this observation.[1-11] As a drug becomes more popular and more widely used, allergic reactions to it become more frequent and the more serious adverse drug reactions begin to make their appearance with increasing frequency.

Side Reactions

There are adverse symptoms from drugs which are part of the spectrum of pharmacodynamic action of the medication. When one administers the drug to get the desired therapeutic effect, one obtains concomitantly other pharmacodynamic effects of the drug which one does not want but cannot avoid. These unwanted actions of the drug are called side reactions or side effects. Thus, to obtain over the long term anti-inflammatory effects with the adrenal corticosteroids or ACTH, the side effects may include the loss of potassium, sodium retention, and negative nitrogen balance. These occur to some degree in all individuals treated. Other side effects from steroids may include the development of psychosis, perforated peptic ulcer, diabetes and the like. These side effects from steroids are actually an extension of their pharmacologic effect.

Toxic Effects, Drug Intolerance, Drug Idiosyncrasy

Toxic effects regularly appear when overdosages of drugs are administered. Each drug tends to have its characteristic toxic effect. For example, the toxic effect of digitalis differs considerably from that of aspirin. However, some may develop toxic effects from normal therapeutic doses or from relatively small doses of a medication. The term drug intolerance is generally used to indicate the fact that average doses of a drug cause toxic effects entirely similar to those caused by the administration of overdosages in the average person. The term idiosyncrasy is used to denote the extraordinary response to a drug which is different from its characteristic pharmacologic action, and therefore is unpredictable and depends upon a personal peculiarity of a small segment of the population—e.g. the bone-marrow depressant effects of aminopyrine or chloramphenicol.

A given drug may produce more than one toxic effect in the same individual or in different individuals. Some drugs are particularly prone to give rise to toxic effects. The following may be mentioned: pheripheral neuritis from arsenicals and mercurials; hepatic involvement from thiouracil, arsphenamime, methimazole (tapazole), chlorpromazine, gold, sulfonamides and others; neurologic disturbances following streptomycin and polymyxin; renal failure from sulfonamides. Other types of toxic effects are also produced by chlormycetin, terramycin and other antibiotics. Fortunately, the therapeutic action is considerable and the adverse effects occur in a relatively small percentage of patients treated with these drugs.

Histamine Releasing Phenomena

Many relatively simple molecules may act as histamine releasers. In some patients, the administration of a drug like codeine may cause a sufficient release of histamine so that it causes a syndrome resembling that which would occur if the patient had received an injection of histamine. This syndrome may include transient flushing, hives, throbbing headache, and increased secretion of gastric hydrochloric acid. There are many other compounds which have the property of releasing histamine but the effect of such agents is in reality not an allergic effect.

Drug Reactions Which Are Genetically Determined

Under this group one can cite the acute hemolytic anemia due to primaquine. This type of anemia may also result from sulfonamides, vitamin K, fava beans and naphthalene. It is familial. It occurs in about 10 per cent of normal healthy negroes. The erythrocytes are morphologically normal but apparently possess enzymatic and biochemical abnormalities which are genetically determined. No antibodies against these red blood cells have been demonstrated. The red blood cells are susceptible to the agents mentioned. If red blood cells from primaquine sensitive individuals are transfused to normal non-primaquine sensitive people and the recipients are given primaquine, then the transfused erythrocytes undergo partial hemolysis.[12, 13] The biochemical abnormality involved in primaquine-induced hemolytic anemia is well-established, i.e. a reduction in glucose-6-phosphate dehydrogenase in the erythrocytes.

Other Drug Reactions

These include such conditions as exfoliative dermatitis from phenobarbital, acne from iodides, argyria from silver, and hairy black tongue from penicillin. The mechanisms of many of these reactions are not clearly understood.

Indirect Drug Effects

Herxheimer reaction: Anti-microbial agents may do their job very effectively but as a result the body may suddenly be flooded with large quantities of dead micro-organisms or their products. This event is associated with an apparently intensification of the disease. This toxic reaction is interpreted by some as being evidence of hypersensitivity to those dead microbes, and microbial products rather than to the antibiotic drug used in therapy.

Alterations in Microbial Ecology

Antibiotics may destroy or interfere with the growth of the patient's usual intestinal micro-organisms. As a result, there may be overgrowth with other less benign flora. Oxytetracycline and chlortetracycline may favor the overgrowth of drug resistant staphylococci and this, in turn, may cause pseudomembranous colitis, a serious and sometimes lethal complication of antimicrobial therapy. Disturbing diarrhea and anorectal manifestations may occur from the overgrowth of certain fungi during antibiotic therapy. Even generalized monilial infections of the skin and mucous membranes may occur.

Allergic Reactions

An individual allergic to a drug may show a train of clinical manifestations which are dependent on the allergic sensitivity of the patient to the specific substance administered. These manifestations tend to be the same regardless of the drug which brings them on. Here, a very small quantity of the drug produces allergic manifestations resulting from an acquired sensitivity to the drug. With the exception of the serum sickness type of allergy, it is invariably associated with the previous administration of the same agent. The common forms of allergic drug reactions are: serum disease-like syndromes, accelerated serum sickness (anaphylaxis) ; atopic manifestations; contact dermatitis; and the ID reaction.

The factors determining drug allergy include: (a) the nature of the host, (b) the nature of the product and whether or not it is used with an adjuvant as for example, penicillin in oil, (c) the route of administration, i.e., the quicker the absorption, the quicker the manifestations produced by the challenging dose. Sensitization is probably brought on much easier in susceptible people by the introduction of the drug through subcutaneous or intramuscular injection, although fatal anaphylactic and atopic reactions have been reported from oral administration of aspirin, penicillin, and many other drugs.

Drugs vary in their capacity to induce allergies. There are unfortunately no known tests which can reliably predict the antigenic potential of a given drug in a given patient.

Serum Disease Type of Reaction

A patient receives a serum, drug or antibiotic for the first time. Within two to twelve days (the incubation period) he may develop fever, urticaria, multiforme skin reactions, pains in the joints and lymphadenopathy. The outlook is usually good. Treatment includes withdrawal of the drug, antihistaminics, sympathomimetic drugs (ephedrine and epinephrine), symptomatic therapy, and only occasionally steroids. As far as the mechanism is concerned, there is very little doubt that this type of reaction is mediated by an immune mechanism. The antigen, if a non-protein drug, conjugates with body proteins (haptene) and stimulates the formation of antibodies. An incubation period is needed to allow time for the formation of antibodies. When these appear, they react with the disappearing antigen (drug) giving rise to clinical manifestations. Antigen is eventually eliminated and antibodies disappear. As this occurs, the patient's condition improves. On rare occasions following the occurrence of "serum disease type of reaction" the administration of a foreign serum, penicillin or sulfonamides, the patient does not get well. The following is an illustrative case:

Case Report. W. A. B., male, aged 48, was admitted to the hospital in status asthmaticus. Eosinophile count was 28 per cent. He had received 12 injections of penicillin four months prior to admission and within five days developed a serum disease type of reaction. In spite of treatment, his fever continued. He presented widespread manifestations accompanied by cardiac and renal failure. His condition ended fatally. Postmortem showed retroperitoneal hematoma, enlarged glands and fever, pancreatitis, coronary occlusion and renal involvement. Microscopic examination revealed the pathologic picture of fibrinoid degeneration of periarteritis nodosa. (Fig. 1)

Hypergammaglobulinemia was present. Gamma globulin may be demonstrated in the lesions. There are other connective tissue diseases that may be associated with the administration of drugs suggesting a possible causal or etiological relationship. Many drugs have been implicated in this connection; among these may be mentioned iodine, aspirin, dilantin, thiouracil and propyl thiouracil. Apresoline has been associated with systemic lupus erythematosus. Penicillin and sulfonamides have been associated with periarteritis nodosa.

"Drug fever" may also occur following the readministration of a drug such as sulfonamides, thiouracil, anti-convulsant drugs, etc. It also accompanies experimental anaphylaxis.

Accelerated (Anaphylactic) Serum Reaction

Case Report. The patient,[14] a young woman, age 21, was admitted to the emergency service of the Montefiore Hospital in November, 1952, in a state of shock. This condition developed a few seconds after the patient received, by injection, procaine hydrochloride, preparatory to tooth extraction. She had received an injection of procain hydrochloride six months before. Blood pressure was 70/60. Pulse 180+. The patient was cold and clammy. She showed marked dyspnea, orthopnea, cyanosis and pulmonary edema. The temperature was 102° F. Treatment included intravenous epinephrine, steroids, oxygen, digitalis, sedation and artificial respiration. In spite of all these measures, she expired 15 hours after admission. Post-mortem examination revealed principally massive bilateral pulmonary edema with extreme congestion and hemorrhage, throughout the alveoli. (Fig. 2, 3)

This type of immediate explosive reaction is also mediated by an immune mechanism. The antigen in this case, as is true of all non-protein antigenic substances, is a haptene. Previous exposure to the drug brought about sensitization. Subsequent exposure causes the drug to unite with the

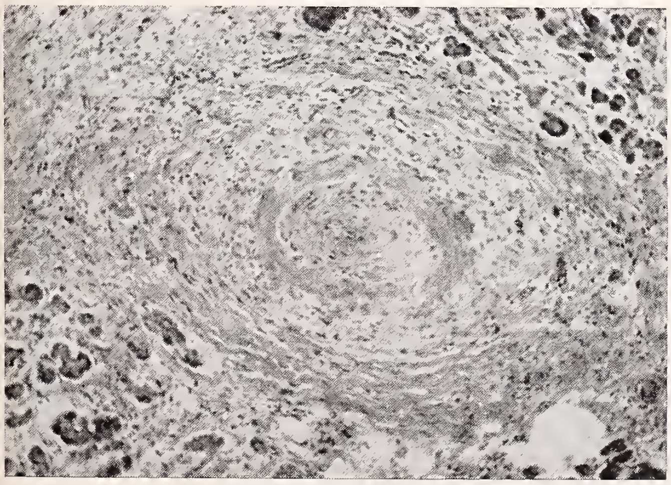

FIGURE 1.
Fibrinoid Degeneration and Occlusion of Artery in Periarteritis Nodosa.

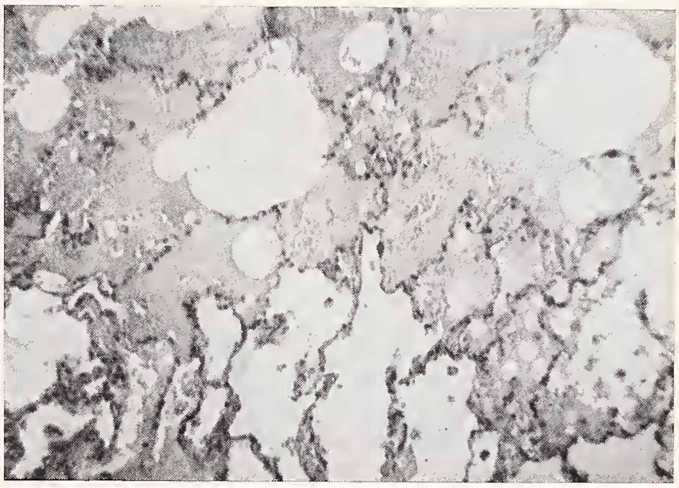

FIGURE 2.
Pulmonary edema in Fatal Reaction to Novocaine.

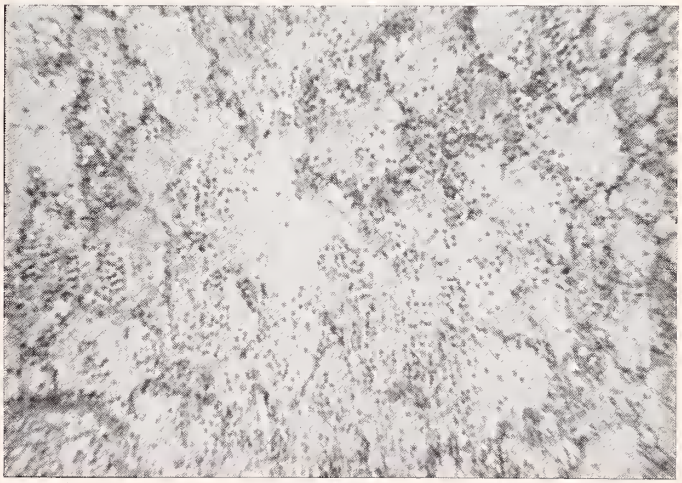

FIGURE 3.
Pulmonary edema in Fatal Reaction to Penicillin.

preformed anaphylactic antibodies. This union gives rise to a severe, generalized, usually fatal reaction. The severity of the manifestations depends, as do all allergic reactions, on the degree of sensitivity of the patient, on the dose of antigen and the method of its administration. Intravenous injection is more likely to elicit a severe reaction than ingestion.

Case Report. Patient, E. B., seven years old received penicillin previously without showing untoward manifestations. Subsequent injection of aqueous penicillin in the buttock was followed by the appearance of a large, tender, painful inflammatory mass at the point of injection. This local reaction is similar to that described as the Arthus phenomenon in anaphylactic rabbits. The reaction is probably mediated by anaphylactic antibodies so that the antigen and antibody unite at the local level and produce inflammatory changes.

The Atopic Reaction

Case Report. Patient, A. W., aged 42, is an asthmatic of long standing. He presents a positive family history of allergy. Three weeks before admission to the hospital, he received five grains of aspirin. He knew that he "could not tolerate the drug." Within a few minutes, he developed a severe attack of asthma, rhinitis and urticaria. Heroic treatment (epinephrine and aminophyllin intravenously, ephedrine, ACTH intravenously, oxygen, etc.) proved life saving. For a while the prognosis seemed very poor.

This type of atopic allergy is based on the transmission by heredity of a sensitive shock organ namely the skin, the nasal and the bronchial mucous membrane. Previous exposure to the drug stimulated the formation of skin sensitizing antibodies. Subsequent or readministration of the drug causes it to react with these antibodies leading to the immediate type of explosive reaction. The prognosis is as a rule, very poor. Unfortunately, it is not always possible to demonstrate the presence of such antibodies because drugs are usually not protein in nature. However, occasionally, skin tests, namely intracutaneous or scratch tests and passive transfer may be positive. It is thought that the sensitivity is due to a combination of the drug, in this case aspirin with certain of the body proteins.

Case Report. Patient, a 21 year old student responded well to anti-allergic treatment for atopic bronchial asthma. On one occasion, he developed marked angioedema of the lips, tongue and eyelids (Fig. 4) following sulfonamide therapy. He was warned not to take any drugs unless specifically prescribed for him. He developed a sore throat. He then procured and proceeded to chew a sulfathiazole lozenge. Within minutes, he developed marked respiratory embarrassment. He reached the hospital emergency room in less than five minutes. Fortunately, the allergy resident was present and recognized the condition as edema of the glottis. There was no time to send the patient to the operating room. The resident immediately performed a tracheotomy and in so doing saved the patient's life. This is an example of an immediate type of atopic drug reaction mediated by skin sensitizing antibodies.

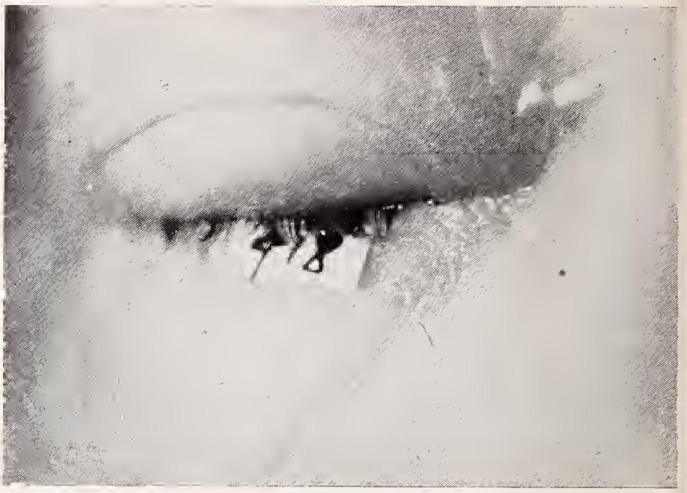

FIGURE 4.
Angioedema Due to Sulfathiazole.

It has been observed that the administration of penicillin may lead to the occurrence of a reaction characterized by urticaria and that this urticaria may be chronic and recurrent over a period of many months, if not years. Theories have been offered for this type of response. It is thought that penicillin may act as a depot, and infinitesimally small amounts of antigen are being released from time to time reacting with the corresponding antibody. Another explanation is that the penicillin antigen may be anchored in the tissues and as antibody is formed it combines with small amounts of penicillin, thus giving rise to urticaria.

Delayed Reaction

Eczematous type of allergic contact dermatitis. The mechanism for the production of the allergic contact type of dermatitis due to a drug is explained as follows: the drug reaches the epidermis where it conjugates with the epithelium. It now acts as an antigen and leads to the formation of cellular antibodies.

Case Report. Patient, age 48, developed contact dermatitis of the eyelids (Fig. 5) following the instillation of pilocarpine for glaucoma. A positive patch test was obtained with the drug. This type of condition may develop as a result of the topical application of any product to the skin or to the mucous membranes. It is similar to allergic dermatitis to poison ivy. Intraepidermal spongio-

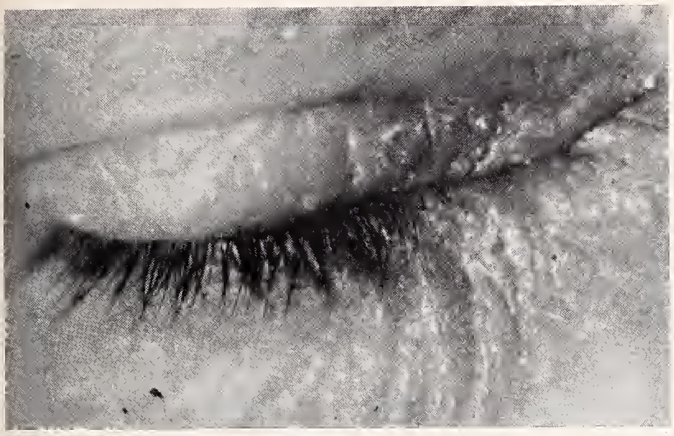

Figure 5.
Contact (allergic) Dermatitis Due to Pilocarpine.

sis develops. There is pruritus. Scratching ruptures the vesicles so that the lesions become weeping and oozing. The antibodies are cellular. Passive transfer with serum is not possible.

Atabrine (Fig. 6) may produce contact dermatitis. Streptomycin is a frequent cause of occupational contact dermatitis in nurses and in pharmacists (Fig. 7).

Occasionally ingestion or injection of a drug which initially caused contact dermatitis may lead to an exacerbation of this condition. In some instances plastics and other materials employed in the manufacture of dental plates, dentifrices, oral penicillin (Fig. 8) and other products may produce stomatitis.

What Is the ID Reaction?

This is an allergy to the products of bacterial or fungus growth. It may occur following the use of antibiotics due possibly to cross antigenicity of the antibiotic with other fungi. The lesion is inflammatory and is not due to infection but to allergy. A positive delayed (tuberculin-like) reaction may be obtained on intradermal testing.

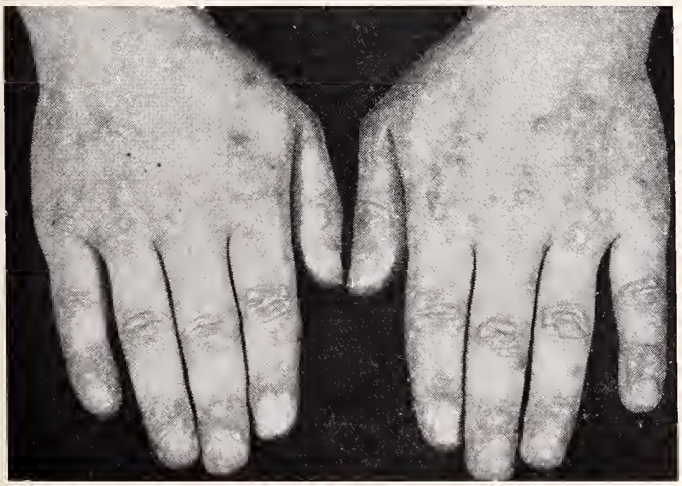

Figure 6.
Atabrine Dermatitis.

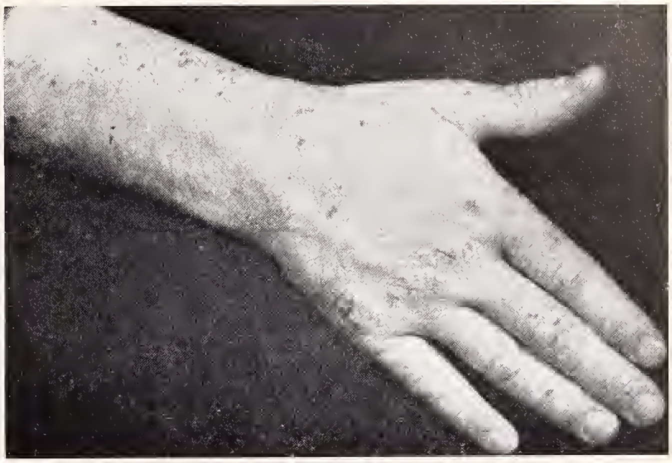

Figure 7,
Contact Dermatitis from Streptomycin.

Case Report. A patient 53 years old, received three doses of penicillin. Two days later he developed an eczematoid, erythematovesicular dermatitis on both feet. He showed a positive delayed tuberculin type of local reaction to penicillin. In this type of a case, it is reasonable to suppose that the patient had been exposed to penicillin before (by inhalation) or to other fungi and that there may exist a cross-antigenicity which is responsible for his clinical manifestations.

Exfoliative Dermatitis

Case Report. Patient, male, age 43, developed marked generalized maculopapular exfoliative dermatitis accompanied by systemic manifestations after he received penicillin injections for two weeks. The patient showed a positive delayed test to penicillin. This condition has been reported to accompany the use of such drugs as potassium thiocyanate, quinidine, iodine, neoarsphenamine and butazolidine. It is also probably based on an allergic mechanism. Exfoliative dermatitis may be accompanied by severe systemic lesions.

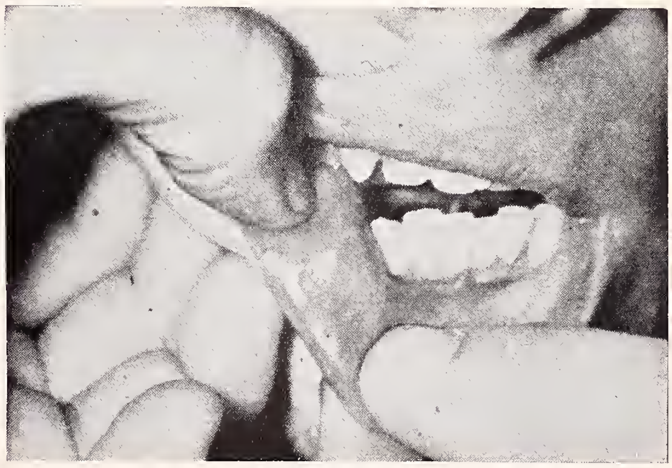

Figure 8.
Stomatitis Due to Oral Penicillin.

Neurologic Manifestations of Drug Allergy

The neurologic complications which may follow the administration of anti-rabies vaccine are brought on by a mechanism of autosensitization. The author has seen a series of 17 patients, all hospital employees, who developed neurologic manifestations after they had received anti-rabies vaccine because they had had contact with a child who was brought into the emergency room after having been bitten by a dog.

Other Drug Reactions—Probably Allergic Autoimmune Allergic Disorders

This group of drug reactions affect the blood cells. It is postulated that the drug combines as a haptene with the formed elements of the blood causing them to become antigenic. Antibodies are produced. Subsequent administration of the drug leads to a change in and destruction of these elements. In a sense this is a form of autosensitization. This type of reaction involves sensitization of platelets, red blood cells and white blood cells as well as of the endothelial lining of the capillaries. These elements act both as shock and as target tissue.

Purpura Due to Drug Allergy

Case Reort. A four year old child developed a severe generalized purpura without a reduction in platelets after receiving three grains of aspirin. The condition disappeared, never to return following withdrawal of the drug. Another patient, after ingestion of two doses of sulfonamide developed a high fever and generalized purpura without thrombocytopenia. We have reported also[15] three cases of non-thrombocytopenic purpura as a manifestation of penicillin sensitivity. Hematologic studies in all of these three cases revealed no platelet deficiency or abnormality of the bleeding time, coagulation time, prothrombin time or clot retraction. The Rumpel-Leede tourniquet test was positive in all three instances, thus indicating that the etiology of this allergic purpura was vascular rather than hematopoietic in origin. We found that the red blood cells and the white blood cells were unaffected.

Thrombocytopenic Purpura

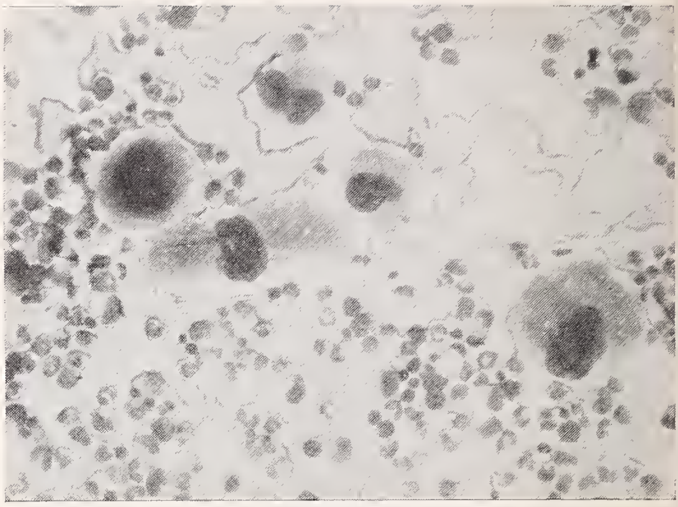

Figure 9.
Thrombocytopenic Purpura Due to Sedormid. Bone Marrow Shows Megakariocytes.

The administration of certain drugs may be accompanied by purpura which is caused by a fall in platelet count. In this case the drug, combines with the platelet becoming antigenic. Antibodies are formed against platelets. Readministration of the drug thus causes destruction of platelets with the occurrence of purpura. We have seen this reaction occur in one patient who was given sedormid (Fig. 9) and in a second patient who received quinidine. We found that the administration of blood or serum from a quinine sensitive patient when given intravenously to a recipient, produced purpura if the recipient takes quinine by mouth. In other words, the reaction occurs only in the presence of the drug. Other drugs which have been implicated in this connection are antipyrine, aspirin and sulfonamides. One of the safest sulfonamides as far as allergic hematologic reactions are concerned is sulfisoxazole (Gantrisin), and yet, several cases of thrombocytopenic purpura have been reported to follow after the administration of this drug. Treatment includes withdrawal of the drug and transfusions of whole blood or platelets.

Agranulocytosis (Granulocytopenia) and Leucopenia

Case Report. Patient, age 34, received aminopyrine for three days. (Fig. 10). On the fourth day he developed an elevation of temperature, 102° F,

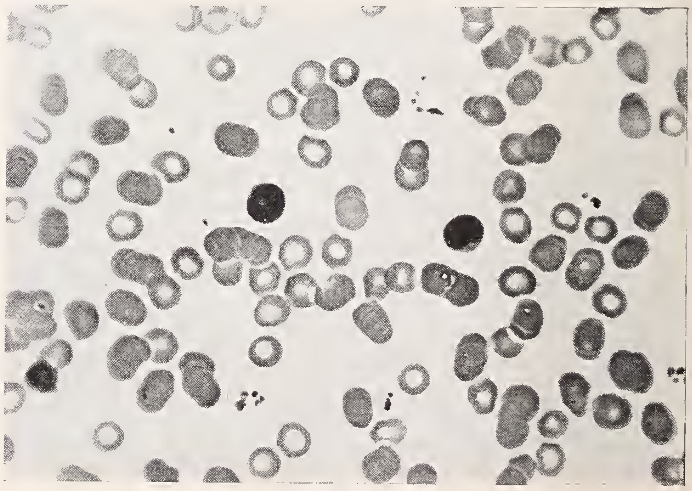

Figure 10.
Agranulocytosis x1216. Peripheral blood.

ulcerations of the mucous membranae of the mouth and pharynx and a marked drop in the polymorphonuclear leucocytes. This condition improved when the drug was discontinued. Antihistaminics and supportive treatment was effective. In more severe instances, ACTH and steroids may have to be employed. This reaction is very likely an immunological one although the evidence to support this contention is largely indirect. The condition has been reported to occur also as a result of administration of sulfathiazine, thiouracil, arsenicals and antibiotics. The serum of sensitive patients has been shown to contain a factor which can cause agglutination of homologous or heterologous leucocytes in vitro. In all likelihood, this is a form of autosensitization. It may be speculated that the drug combines with the white blood cells rendering them antigenic. This (in turn) stimulates the production of anti-leucocytic antibodies. In the presence of the drug, the antibodies unite with the leucocytes causing their destruction.

Acute Hemolytic Anemia

The mechanism involved in the development of this condition is probably similar to that which occurs in the agranulocytic patient. The erythrocytes conjugate with the drug. Antibodies are formed. Subsequent destruction of red blood cells occurs by agglutination. As in other cases of drug allergy, treatment consists of the prompt withdrawal of the drug and of blood transfusions. It should be stated that there are those who believe that this condition arises as a result, not of allergy, but of enzymatic action.

What Are Fixed Eruptions?

Case Report. Patient, aged 29, who received two tablets of phenophthalein, developed an area of localized erythematous dermatitis accompanied by pigmentation on the lateral surface of the thigh. This recurred three weeks later when the drug was readministered. The exact mechanism of this reaction is not clearly understood. However, it seems to be brought about by an allergic mechanism. Fixed eruptions follow also the administration of oxytetracycline, streptomycin and sulfonamides.

Skin Manifestations of Drug Allergy

In the appearance of the skin reactions, lesions of drug allergy may mimic almost any known dermatologic condition. The lesions may be maculopapular, erythematous, vesicular, scarlatiniform, morbilliform, bullous, exfoliative, urticarial, etc. They may be a manifestation of either toxicity or allergy. Blocking of enzyme systems may play an important role in the production of many drug eruptions.

How to Treat Allergic Drug Reactions

General measures of treatment are equally applicable to all allergic drug reactions. The causative drug must be recognized. This implies the presence of a high index of suspicion when, during the course of therapy, unusual, unexpected clinical manifestations occur. The drug is promptly withdrawn. Immediate, aggressive and active therapy is indicated in the more severe drug reactions. Shock is treated if present by giving Levophed 4 cc. ampoule in 1000 cc. of five per cent dextrose in distilled water. The following are employed in dosage and frequency dependent upon the severity of the patient's condition: antihistaminics, epinephrine, steroids and ACTH. Mucus is aspirated by catheter or bronchoscopy if necessary; oxygen, sedatives and symptomatic treatment is given.

There is serious doubt as to whether desensitization or hyposensitization to drugs is actually possible. The so-called fractional method of administration of a drug or serum where one administers small amounts of the drug or agent at half-hour intervals in the hope of developing in the patient a tolerance to this product, is highly questionable. If there is a sufficient degree of sensitivity present, manifestations will occur from the administration of even an infinitesimally small quantity of the product. However, in the case of biologic products such as insulin, a change of batch obtained from a different biologic source may be tolerated. It is also found that in some instances following a reaction to a biologic product such as insulin, if one waits for a period of weeks or months, subsequent courses of the same product may be tolerated. The mechanism for this is not exactly understood. Penicillinase has been advocated[16, 17] as a form of treatment for allergic penicillin reactions. Penicillinase is an enzyme which hydrolyzes penicillin to penicillinoic acid which is non-antigenic. Our own experience with this form of therapy is limited to 12 instances of chronic recurrent urticaria directly due to penicillin allergy. Each patient received 800,000 units of penicillinase (Neutrapen) once or twice with excellent results in seven cases. It is reported that one such injection will render the blood penicillin free for four to seven days, even though the patient receives penicillin 800,000 units twice daily. However, penicillinase is a protein and allergic reactions to it have been reported.[18]

Prevention of Allergic Drug Reactions

The best treatment of drug reactions is avoidance. For this reason, the physician should exercise caution and conservatism in the employment of any drug, especially of those which like penicillin are known to be good sensitizers. The concomitant administration of drugs with antihistaminics is of doubtful value. A previous history of exposure is obtained. Those who are known to be allergic to penicillin or to horse serum may be encouraged to carry an identification tag with this information so as to avoid reactions which may occur if penicillin is given as emergency treatment following an accident. A negative history of previous exposure is not always reliable because the patient may have had the antibiotic in question given by an unusual route such as lozenges, spray or ointment. Nor does the fact that the patient is not a known allergic individual indicate that he is unlikely or indeed less likely to be allergic to a drug. The most effective method of prevention is to exercise care and conservatism in prescribing potent allergenic drugs, especially antibiotics. It is estimated that last year more than three million pounds of antibiotics were made available in this country and of this almost three quarters of a million pounds of penicillin was used.

Sensitization Tests

Skin testing (scratch or intracutaneous) with drugs is notoriously unreliable, unless the product is a protein. Nor is such testing without danger. Thus it is not possible to predict with certainty the presence of aspirin or of any other drug sensitivity by skin testing. We have tested 39 patients who presented allergic reactions (chronic uticaria and angioedema) to penicillin with this antibiotic both by the scratch and intracutaneous test. The results were variable. The extent of the skin test did not parallel the severity of the clinical reaction. Of the 39 patients tested, 24 gave convincing positive skin tests. However, only four showed a positive passive transfer. Aqueous crystalline penicillin was used. Intracutaneons testing employed the antibiotic in a concentration of 5000 units per cc. cubic centimeter. The non-reactors were then tested with penicillin intracutaneously containing 10,000 units per cubic centimeter. Controls were done. We came to the conclusion that in the case of antibiotics, a negative skin test did not exclude the possibility of a subsequent reaction. A positive skin test made the appearance of such a reaction probable. One patient who developed an anaphylactic reaction to penicillin showed a marked positive skin test which could be passively transferred. Obviously, this patient had skin sensitizing antibodies to penicillin. We know, however, that these antibodies mediate the atopic (asthmatic) manifestations and not those shown by this patient (anaphylactic). It is presumed then that at least in some instances the two types of antibodies, skin sensitizing and anaphylactic, run parallel to each other. In five patients, we obtained a delayed tuberculin type of reaction to penicillin, the exact meaning of which is not clear. Obviously, this sensitivity is associated with the presence of cellular antibodies. Patch tests done with drugs on patients with any type of reaction other than the eczematoid allergic type of contact dermatitis, are, as one might expect negative. Attempts have been made to skin test patients suspected or proven to be sensitive to drugs such as aspirin and sulfonamides with the serum of normal individuals who received these drugs or with a combination of normal serum to which the drug was added and the mixture incubated. We tested two ' aspirin sensitive patients with the serum alone as indicated above. One of these two patients would develop severe generalized purpura following aspirin administration, and the second, an atopic person, marked urticaria and asthma from aspirin. The first patient showed a negative scratch or intracutaneous test to aspirin. This patient was also tested with a mixture of serum and aspirin with negative results. We did not dare test the second patient with aspirin or with this mixture. Passive transfer failed when the sensitized site was tested with either aspirin alone, aspirin containing normal serum, and a mixture of aspirin and serum. Similar experiments were carried out by us with three sulfonamide sensitive patients with inconclusive results. Three nurses, who developed allergic contact dermatitis to streptomycin, were patch tested with this drug, 500 units per cubic centimeter, with positive results. It would seem then that in non-protein drugs, skin testing as a method screening out patients who might possibly be allergic to the agent are disappointing. Sporadic and only occasional reports of positive direct and positive passive transfer in cases of atopic reactions (urticaria, nasal allergy and asthma) to simple chemical drugs may be found in the literature.[18, 19, 20] However in vitro precipitins tests are almost universally negative. Hemagglutination tests may be positive.

Other Tests May Be Used

Thus, preliminary to the use of cocaine hydrochloride or procaine hydrochloride and related drugs one may apply them in one-fourth or one-half dilution intranasally with an applicator. This test is not without danger. If the patient is allergic, there will develop local edema. The test is simple and not time consuming. Substitute drugs such as xylocaine should be used in doubtful cases.

Is There Cross Reaction Between Drugs?

Cross reactions may occur between drugs which are chemically related. Thus, it is found that sulfonamides, aniline, paraphenylenediamine all have the ability to form the quinone structure by oxidation. This produces in each the same active principle that is responsible for the allergic reaction. It is the quinone radical that is allergenically active after it combines with body proteins.

Sensitivity to penicillin may occur in utero because penicillin passes the placental barrier. Man is exposed to fungi by inhalation, infection and ingestion (foods). Dairy products not infrequently contain an appreciable amount of penicillin. This antibiotic is used in the treatment of mastitis in cows. Several cases of urticaria have been reported occurring in penicillin sensitive patients who drank milk containing penicillin. Many foods, fish, fowl and pork are preserved with antibiotics. Antimicrobial agents are fed to cattle and other animals in order to promote their growth. There arises the question as to whether feeding these antibiotics containing foods over long periods of time may lead to sensitization of those thus exposed. Polio vaccine also contains small quantities of penicillin. Furthermore one may also speculate as to whether repeated and frequent exposure may lead to sensitization to chemically and antigenically related antibiotics which may later be given for therapeutic reasons. The evidence in this connection is not clear, but it seems highly probable that such cross-antigenicity really exists. Certainly it seems that there is often a cross-reaction between penicillin and penicillium. There is disagreement, however, as to whether penicillin and trychophyton have a common antigen. With regards to cross antigenicity of drugs, it has been found that drugs which are not chemically similar may be taken with impunity. Thus patients who are sensitive to aspirin will frequently find it possible to take sodium salicylate, acetanilid, aminopyrine and acetophenedtidin. Occasionally, however, aspirin sensitive patients may not be able to tolerate any of these drugs. Substitutes for aspirin have been offered. N-acetyl-p-aminophenol is one. Another useful substitute is Dextro Propoxyphene Hydrochloride (Darvon, Lilly Co.) 65 mg. per adult dose.

Unexplained Drug Reactions

These reactions are non-immune. The basis for their production is not clear. They include: excitation from barbiturates, aplasia of bone marrow (benzol and x-ray), skin involvement produced by arsenic and bromides and some bowel lesions from antibiotics.

Conclusion

Experience proves that the rising incidence[21,22] and occasional severe and fatal reaction to drugs makes it necessary to use these agents with caution and conservatism. Early recognition of the nature of such a reaction and the prompt institution of treatment is essential. The unnecessary employment of antibiotics and other therapeutic agents is both wasteful and dangerous. No drug should be taken except when specifically indicated. As Sir James McKenzie pointed out many years ago, it is important for a physician to know what harm he is about to do. The safe dictum in therapy continues to be: Primum non nocere.

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Recent Advances in Research on the Etiology of Trachoma

More than 50 years ago Halberstaedter and Prowazek made their classical observations on trachoma in Java,[1] indicating that the disease could be transmitted from man to another primate,—the orangutan. In the conjunctival scrapings from these animals and from human patients, they noted the presence of epithelial cell inclusions, with which their names have long been associated. Five years later, in 1912, Nicolle, Blaisot, and Cuénod showed that the causal agent of trachoma passed through a modified Berkefeld V filter.[2] Then followed a long period in which relatively little advance was made in the characterization of the etiologic agent of this widespread disease which causes so much disability in certain parts of the world, notably the Middle and the Far East and in our own North-American Indian reservations. Actually, during the next 30 years the work was greatly hindered by the lack of a suitable animal host. For, although primates were susceptible, the experimental disease turned out to be a comparatively mild infection which soon resolved spontaneously without corneal lesions or scars, and the inclusions originally described, were found to be scanty. Furthermore, until recently, all attempts to culture the "virus" yielded negataive or equivocal results.

At long last, however, there seems to be a real break-through with results so encouraging that they bid fair to change the status of research on trachoma and inclusion conjunctivitis. The reports have come from several laboratories in widely scattered parts of the world. One of the first of these reports came from China, where in 1957, Tang and his colleagues announced from Peking, the isolation of viruses from patients with trachoma achieved by the inoculation of conjuntival scrapings into the yolk sacs of embryonated eggs.[3] Three agents, apparently of the psittacosislymphogranuloma venereum group, were isolated and they all could be identified from other members of this P-IGV group by animal inoculation and other tests. Samples of these viruses were sent to Dr. L. H. Collier of the Lister Institute of Preventive Medicine of London, who carried the work forward and soon Collier and Sowa also reported the isolation of similar viruses from trachoma patients in the Gambia, West Africa.[4]

Another promising discovery in this field has recently come from the Harvard School of Public Health in Boston, where the dean of that School, Dr. J. C. Snyder, assisted by two other colleagues,

S. D. Bell and E. S. Murray, have carried the story further.[5] For some years these investigators have been engaged in the Aramco Trachoma Research Program, of the Medical Department of the Arabian Oil Company at Dhahran, Saudi Arabia. Here they have used similar methods to those employed by Collier and have an agent isolated from a patient with trachoma in Saudi Arabia which they have cultivated in the yolk sac of the embryonating egg. This agent induced conjunctivitis and inclusion bodies in a chimpanzee and proved to be toxic for mice when injected intravenously.

Working on this and other similar agents, the Harvard investigators next applied themselves to the task of devising methods for immunizing against trachoma, but before attempting to accomplish this end, they set out to determine whether the strains of this virus from different geographic regions are all antigenically alike. The differentiation of the various strains has rested upon the fact that by reason of their being toxic for mice, this provides the opportunity of carrying out cross protection tests in mice using vaccines prepared from the various strains. It was soon found that toxic deaths could be prevented by vaccinating the mice with concentrated suspension of homologous strains inactivated by formalin or phenol. Judged by the challenges, at least two antigenically distinct types of elementary bodies of trachoma occur in Saudi Arabia and in Egypt. Although the tests were complicated by anaphylectic phenomena, the method can be applied to one of the major problems in this field,—namely it can be used to determine how many antigenic types are actually involved in the etiology of clinical trachoma. A heartening aspect of this discovery is that this work now carries with it the hope that these findings can some day be applied to the prophylaxis of trachoma in man,—granted that, by that time one knows the type or types of trachoma from which various populations may be suffering.

J. R. P.

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The Modern Treatment of Early Syphilis and Its Effects on Some Late Neurological Lesions

When syphilitic infection was commonly treated by mercury and the iodides certain late neurological manifestations, notably tabes dorsalis and general paresis, quite frequently appeared years after seemingly adequate therapy of the early stages. According to some authorities seven and a half per cent of treated luetics developed these aftereffects. In recent years it has usually been possible to successfully control early syphilis with penicillin, often in combination with bismuth. The question arises whether the new treatment has any effect on the incidence of the late neurological lesions. A recent report, presumably by Dr. Jadassohn, Jr., as his father's comments of 25 years ago are mentioned, notes that in Geneva, a city of 200,000 people, only 69 cases of tabes dorsalis and general paresis were diagnosed in the last seven years. Furthermore, more than half of these occurred among patients treated in the period from 1916 to 1918, showing that the checking of the neurological complications was much more adequate when modern treatment was thoroughly established. It was also demonstrated that the prognosis of the neurological complications was definitely improved.* While no note is made of the actual number of syphilitics involved in the Swiss study there seems little doubt that modern treatment lessens the incidence of tabes dorsalis and general paresis.

G. B.

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* Foreign Letters. Switzerland. Jour. Amer. Med. Assn. 1956, Vol. 160, p. 995; United Kingdom. J.A.M.A. 1956, Vol. 160, p. 1254.

Pitfalls in Some Life Insurance Statistics

The recent widely publicized report of the Society of Actuaries (*Build and Blood Pressure Study,* Vol. 1, 1959), associating mild hypertension and slight overweight with considerably increased mortality rates, raises serious practical questions for the physician. What advice should he give to the patient with these conditions? Is drug therapy indicated in mild hypertension or slight overweight?

The report of the actuaries is based on a study of weights and blood pressures collected by 26 life insurance companies representing 65 per cent of ordinary insurance in force on December 31, 1954. If only for its auspices and the enormous amount of data on which the conclusions are based, it cannot be brushed aside, but neither can it be accepted uncritically.

QUESTIONABLE DATA

The processing of millions of figures through an electronic computer cannot produce accurate answers if the raw data fed into the machine are not accurate; and it is the raw data used in this study that must be questioned. Most applicants for insurance are examined by physicians engaged by insurance agents, and the agents lose commissions when applicants are rejected. Furthermore, with the background of a strong medical tradition of protecting the patient, the doctor may turn in a favorable report partly to avoid alarming the applicant, partly to avoid responsibility for denying insurance protection to the applicant and his family. The practice of under-reading high weight and blood-pressure figures cannot be condoned; but in view of the prognostic and therapeutic implications of the findings, it would be a serious error not to consider the possibility that this practice is sufficiently widespread to have had a marked effect on the outcome of the study.

Given the examining physician's motivation for under-reading high blood pressures, the inherent errors of blood pressure measurement will also inevitably tend to be on the low side. In view of the probable errors both in measurement and in recording, the high mortality experience attributed to mild hypertension almost certainly represents the experience of persons with more severe hypertension. There is no doubt that persons with moderate or severe essential hypertension have a higher mortality rate than persons with mild hypertension. But there is some doubt that the mortality rate of the latter group is significantly greater than the rate of a comparable non-hypertensive population (A. W. D. Leishman, "Hypertension, Treated and Untreated," *British Medical Journal,* May 30, 1959, p. 1361; M. J. D. Newman and J. I. S. Robertson, "Some Aspects of Prognosis in Treated Hypertension," *British Medical Journal,* May 30, 1959, p. 1368; H. S. Mathisen, "Prognosis in Essential Hypertension," *American Heart Journal, 57:* 371, March, 1959).

THERAPEUTIC IMPLICATIONS

Even if one accepts the conclusion that there is an association between slight elevation of blood pressure and increased mortality rate, any inference that drug therapy is indicated is not warranted. It has not been shown that the prognosis in mild, essential hypertension is affected by drug therapy. Moreover, all effective antihypertensive drugs, including chlorothiazide and other "thiazides," cause undesirable reactions, some of them serious. The long-term hazards of toxicity and side effects must be weighed against the unproved assumption that the treatment of mild hypertension will increase the patient's life expectancy.

As for weight, new "average weight" tables for height and age are proposed by the actuaries to replace those formulated some 30 years ago. Physicians are generally aware, however, that no "average" figure is necessarily in the desirable weight range for a particular patient—that is, the weight range likely to be associated with good health and maximum life expectancy for a person with a particular body build, bone structure, muscle mass and temperament. However, no one will quarrel with that part of the study which associates a considerably increased mortality rate with overweight of 25 pounds or more.

The actuaries' report will no doubt strengthen the impact of the already heavy promotion of anorectic drugs. It is clear, however, that no drug has more than limited, temporary value as an adjunct to proper dieting and controlled exercise in a weight-reducing program.

(Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.)

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THE PRESIDENT'S PAGE

It has been most gratifying to observe that the recommendation from the Committee on Postgraduate Education "that a one day Clinical Congress be held in 1960" was acted upon favorably in the December 6, 1959, meeting of the Council. This statement, set apart by itself, would hardly be considered as qualifying for head-line material. However, when one recalls to mind the lack of interest, the falling attendance, and the out-right opposition by some of our Society members to continue the Clinical Congress, it is indeed refreshing to find that the Council recognizes the educational obligations which our Society owes to its membership.

"To extend medical knowledge and advance medical science; to elevate the standards of medical education; and to promote friendly intercourse among physicians" as expressed in our by-laws is just as applicable today as it was when first inserted there. This is particularly true with respect to our younger physicians, for medical education and learning will necessarily continue throughout their professional lifetime.

Under the able leadership of the Chairman of our Committee on Postgraduate Education, this Committee has arranged excellent programs for the scientific sessions of our Annual Meeting and of the Clinical Congress: witness the wide acclaim and splendid acceptance given Doctor Albert B. Sabin's contribution concerning oral, live, attenuated, poliovirus vaccine at our Clinical Congress in September 1959.

It is recognized that these efforts are only adjuncts, but they exhibit a sincere effort on the part of the Society to contribute its share to the many educational programs in which the physician must continually participate. Does the cross-section of the population really know of these constant efforts made by the physician to enable him to render better care to his patient? There is reason to doubt widespread knowledge and recognition of these efforts.

In developing himself professionally, the physician must render a service which differs from many others in that the services of medicine are like those of a religion: to be effective, they are and will always continue to be largely personal. This effectiveness would be seriously impeded by restrictive and inelastic regulations which are necessarily inherent in any form of compulsory governmental medical care program. Being intuitively knowledgeable of this, the true physician naturally opposes any scheme which would deny his patient proper and adequate care.

It is only the physician who can apply the science and the art of medicine, but even science must be humanized for this purpose. The qualified and dedicated young physician of today will be the wise and experienced physician of tomorrow. We must place in his hands our most hallowed trust. He will temper the blade of cold science, and with the art acquired from his forebears, he will perpetuate this greatest of all humanitarian professions.

Ellwood C. Weise, Sr., M.D.

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Opinion Survey And Relative Value Study

The following "Glossary of Terms" is being published for the information of members of the Society, with the recommendation that it be used for reference at such time as our Relative Value Study is conducted.

W. R. R.

"GLOSSARY OF TERMS"

Relative Value Study

Prepared by the AMA Committee on Medical Practices

Relative Value—A numerical unit designation which expresses the relationship one professional service has to another. (Note: these designations are *not* fees). This is also often referred to as the 'unit' value; some physicians call them 'points.' It is a simple figure which states the "weight" of each procedure in relationship to another. It results from a statistical analysis of physicians' normal and customary charges, as revealed in a survey of fees.

Co-efficient—The dollar amount which, when applied to a relative value (unit or point), converts it into a fee. The term 'conversion factor' is often used interchangeably with this term.

Nomenclature—The description of medical, surgical, radiological, and pathological procedures based upon the listing of the California Medical Association. (Rigid adherence to such nomenclature is not mandatory. Modifications and additions may be made where found necessary by constituent associations.)

Code—The numbers identifying all procedures in the nomenclature based upon the code developed by the California Medical Association. (Note: additional code numbers may be assigned where new procedures are listed, but numbers should conform to present coding system of the CMA).

Division—The four major sections of a Relative Value Study; i.e., Medicine, Surgery, Radiology, and Pathology. Where the relative values are established for each division separately, the sections are generally described as "segmented." Where the relative values are established for all divisions without regard to distinction between the services in each section, the section or divisions are generally described as "integrated."

Global "Fee"—A fee based upon a unit value which reflects the inclusion of *all usual services* rendered during the period of normal after-care. This term is used in conjunction with surgical procedures. Editorial Note: A global "fee" may also be established for certain non-surgical services. Example: A "package" fee for the first two weeks of care of an acute coronary thrombosis, rather than day by day or visit by visit charges.

Relative Value Study—The term assigned to a study of physicians' normal and customary charges in which (1) unit values are assigned to each procedure, and (2) code numbers and nomenclature (based upon the California Medical Association study) are broken down into the four divisions previously referred to. "Relative Value Index Study" is used interchangeably with this term.

Average—A statistical measurement based upon a statistical analysis of data. There are various types of averages which may be secured from a set of data. Four of these averages are defined below:

MEAN: The arithmetic mean is that number obtained by taking the sum of all the items in a set, then dividing by the number of items which were used to reach the sum.

Example of how to find the Mean: Given five responses to the question of the charge for office visits, such as \$3.00, \$4.00, \$2.50, \$7.00, \$5.00

Add them: $\$3.00 + \$4.00 + \$2.50 + \$7.00 + \$5.00 = \frac{\$21.50}{5}$

Therefore, the Mean is \$4.30.

MEDIAN—The middle measure of a set when the items are arranged in order of size; when there is no middle item, i.e., if there are an even number of items, then the Median is the average of the two "middle" items.

Example of how to find the Median: Take an unordered group of responses on the question of charges by physicians for office visits: \$3.00, \$4.00, \$6.00, \$3.50, \$7.00, \$2.00, \$5.00

Arrange in order: \$2.00, \$3.00, \$3.50, \$4.00, \$5.00, \$6.00, \$7.00

The fourth fee is the middle fee of this group, therefore, \$4.00 would be the Median.

If you add one more fee to this series of responses, say, \$8.00, you now have \$2.00, \$3.00, \$3.50, \$4.00, \$5.00, \$6.00, \$7.00, \$8.00

The Median of this group would now be the average of the two "middle" fees, that is

$$\frac{\$4.00 + \$5.00}{2} = \$4.50$$

MODE—Most frequent value in a given set of items.

Example of how to find the mode of a set of responses. Given the following as charges for office visits: \$3.00, \$3.50, \$7.00, \$5.50, \$4.00, \$3.00, \$4.00, \$2.50, \$4.00, \$6.00, \$4.00, \$6.00.

Now list each fee with the frequency of occurrence, and the Mode is found:

FEE	FREQUENCY
\$2.50	1
\$3.00	2
\$3.50	1
\$4.00	4
\$5.00	1
\$6.00	2
\$7.00	1

The Mode is \$4.00.

THE THIRD QUARTILE (Q3)—The value below which 3/4 of the items of a set lie, and above which 1/4 of the items lie. In the case of ungrouped data it is necessary to arrange the items in numerical order to locate the quartiles.

Example of how to determine the third quartile of a set:

In an example which contains 100 cases, the Q3 would be the value midway between the 75th case and the 76th case. Suppose we have a hundred responses on the fee for an office visit. If, with the fees arranged in numerical order, the 75th fee is \$4.00 and the 76th fee is \$4.50, the Q3 of this set would be \$4.25. This is obtained by taking the average of the two fees.

The use of this number, \$4.25, is so that you have a point of reference in your group of replies. It tells that of the 100 doctors responding to the question, 75 charge less than \$4.25 and 25 charge more than \$4.25 for office visits.

ANNUAL MEETING OF THE HOUSE OF DELEGATES

CONNECTICUT STATE MEDICAL SOCIETY

TUESDAY, APRIL 26, 1960
10:00 A.M.

HAMDEN HIGH SCHOOL
2040 Dixwell Avenue
Hamden, Connecticut

FROM THE GENERAL MANAGER'S OFFICE

William R. Richards, m.d., *General Manager*
160 St. Ronan Street, New Haven, Conn.
Telephone UN 5-0587

James G. Burch
Director of Public Relations

Josephine P. Lindquist
Assistant to General Manager

Medicare Benefits Restored

The General Manager's office has received official notification that, on January 1, 1960, many of the benefits which were curtailed under the Medicare program will be restored. A Medicare directive, listing these restored benefits, has been reprinted as a supplement to the February, 1960 issue of Connecticut Medicine, and will be included with this issue of the Journal for the information of all members of the Society.

COUNCIL MEETING

Wednesday, January 6, 1960

A regular monthly meeting of the Council was called to order by the Chairman, Dr. Feeney, at 3:30 P.M. on Wednesday, January 6, 1960. Present in addition to the Chairman were Drs. Weise, Goldberg, Gilman, Richards, O'Connor, Cullen, Scully, Davis, Gens, Kennedy, Buckley, Blodinger, Eddy, Grendon, Gardner, Rentsch, Phillips and Chartier. Absent were Drs. Gallivan, Cornwell, Murray, Schiavetti, Pollock and Purnell.

ACCEPTANCE OF MINUTES. The minutes of the meeting of November 19, 1959 were accepted as printed.

DUES EXEMPTION (TOLLAND COUNTY). It was VOTED to approve remission of dues for Vernon E. Thomas, Tolland County, commencing with the year 1959 for postgraduate education.

DUES EXEMPTION (NEW HAVEN COUNTY). It was VOTED to exempt Anthony Sperandeo, New Haven County, from payment of dues for the year 1959 because of physical disability.

DUES EXEMPTION (NEW HAVEN COUNTY). It was VOTED to table action on a request from John C. McLaughlin, New Haven County, for exemption from payment of dues because of physical disability, pending additional information.

JOINT CONFERENCE COMMITTEE WITH STATE BAR ASSOCIATION. It was VOTED to accept the resignation of Charles E. Jacobson, Manchester, as a member of this committee. It was further VOTED to refer the matter of a replacement for Dr. Jacobson to the Nominating Committee for 1960.

COMMITTEE ON PUBLIC RELATIONS. It was VOTED to accept the resignation of Henry Sherwood, Middletown, as a member of this committee. It was further VOTED to refer the matter of Dr. Sherwood's replacement to the Nominating Committee for 1960, with his recommendation that his replacement be appointed from New London County Medical Association.

WHITE HOUSE CONFERENCE ON CHILDREN AND YOUTH. It was VOTED to authorize Morris A. Wessel, New Haven, to attend this conference as a delegate from Connecticut and it was further VOTED to appropriate the sum of $207 to defray Dr. Wessel's costs incurred in attending the meeting in Washington, March 27th to April 2nd, 1960.

PURCHASE OF EQUIPMENT. It was VOTED to authorize the expenditure of $73.61 from the Russell Fund for the purpose of purchasing a bookcase to be used in the Journal office.

CLINICAL CONGRESS—1960. It was VOTED to authorize the conducting of the 1960 Clinical Congress at Hartford, upon recommendation of the Committee on Postgraduate Education. It was further VOTED to authorize a registration fee of $5.00 for that meeting.

SECTION ON NEUROSURGERY. It was VOTED to approve a request from a group of Connecticut neurosurgeons to form a Section on Neurosurgery of the Society. It was further VOTED to transmit this request to the House of Delegates at the Annual Meeting with the recommendation that it be approved.

AMA MEDICO-LEGAL CONFERENCE. It was VOTED to authorize payment of the expenses of the General Manager that will be incurred by his attendance at this conference on May 20-21, 1960 in Chicago.

CONNECTICUT MEDICAL SERVICE, INC. In response to notification from CMS, Inc. that the terms of four of the present members of the Society who serve on the CMS Board of Directors will expire in February, 1960, it was VOTED to recommend the names of the following members of the Society for election as CMS Directors at the Annual Meeting of the Corporation to be held on February 16,

1960. The terms of office are for two years each:

Willard E. Buckley, Middletown
Michael A. Dean, Bridgeport
Francis P. Gallo, Winsted
Frank L. Polito, Torrington

Dr. Feeney read the minutes of the Joint Liaison Committee held on December 15, 1960. These minutes were of a confidential nature insofar as the public is concerned but are on file at the General Manager's office for inspection by any member of the Society.

On recommendation of the Council's liaison subcommittee with CMS, the Council considered a series of six proposed resolutions pertaining to CMS matters. Acting on each one separately, it was VOTED unanimously to approve all six resolutions.

The titles of the proposed resolutions are as follows:

Re: Determinations of Service Benefits Coverage
Re: Service Benefits Principle
Re: Adjustment of Service Income Levels
Re: Support of Service Benefits Principle
Re: Improvements in CMS Contracts
Re: Official Notification of Actions

It was further VOTED unanimously to adopt the following motions:

IT IS MOVED: That the Council call a special meeting of the House of Delegates to consider and act upon these resolutions, and it is further

MOVED: That prior to the special meeting of the House of Delegates, these resolutions be presented to the CMS-CSMS Joint Liaison Committee for information and discussion, and be it further

MOVED: That the special meeting of the House of Delegates be held at the New Haven Medical Association Library, New Haven, at 2:30 P.M. on Wednesday, January 27, 1960.

BLUE CROSS. A reply from the General Manager of Connecticut Blue Cross re the enrollment of individual members over 65 was received as information. Blue Cross has this matter under continuing study but has no immediate plans to offer "open enrollment" to individuals over 65 years of age who are not now included in the more than 100,000 over-65 Blue Cross members.

COMMITTEE ON AGING. It was VOTED to authorize the committee to proceed in its state "Joint Council" activities on an informal basis, as recommended by the Chairman of the Committee. It was further VOTED to appoint the following members of the Society to serve on the Committee on Aging: Arthur B. Dayton, New Haven; Edwin F. Trautman, Trumbull; and Harold E. Speight, Middletown.

COMMITTEE ON PUBLIC HEALTH. It was VOTED to approve the request that the Committee recommend to each of the eight county medical associations the formation of a committee on public health, industrial and preventive medicine.

ADVISORY COMMITTEE ON SCHOOL HEALTH. It was VOTED to approve a budget for a Conference on Athletic Injuries which is to be held in Meriden on April 2, 1960, under the sponsorship of the Society and other organizations, and it was further VOTED to appropriate a sum not to exceed $300 for the purpose of providing the Advisory Committe on School Health with a working fund for this Conference and of covering a possible deficit in the operation of the Conference.

REPORT OF BUILDING COMMITTEE. It was VOTED to approve the recommendations of the Building Committee to expend a portion of the authorized 1960 Budget funds for repairs and improvements.

NEW ENGLAND COUNCIL'S COMMITTEE ON MEDICAL ECONOMICS & INSURANCE. It was VOTED to authorize M. David Deren, Bridgeport, to attend this meeting in Boston on January 20, 1960 and to appropriate the amount of $50.00 to cover his expenses if he decides to attend.

REPORT ON LEGISLATIVE ACTIVITIES. There was a general discussion of the legislative activities which have been engaged in during the past several months by individual members of the Society and by county and city associations. There was agreement that all Connecticut representatives in the Congress have been provided with opportunities to meet with physicians and other interested people for the purpose of exchanging points of view on Forand-type legislation. There was also agreement that this form of service to our legislators and to the public should be continued and expanded.

ELECTION OF STUDENT MEMBERS. The following three student members were elected: *Shelley Monroe Brown*, 27 Trumbull Avenue, Milford, New York Downstate Medical Center—Class of 1963, Pre-Med: Barnard College, Parent: Arthur S. Brown; William F. Cushman, Jr., 19 Chapman Street, East Hartford, University of Vermont—Class of 1960, Pre-Med: Colby College, Parent: William F. Cushman; *James P. Tracy*, 16 Oakwood Lane, Westport, University of Pennsylvania—Class of 1963, Pre-Med: Yale University, Parent: Dr. Edward J. Tracey, deceased.

AMA MEMBERSHIP. It was VOTED that, pursuant to the discussion at the last House of Delegates meeting, the president of the Society recommend to the eight county medical associations that at their Spring meetings, they endeavor to persuade all their members to join the American Medical Association.

OPINION SURVEY. It was brought to the attention of the Council that an initial payment of $1,250 was to be made to the consulting firm of Rogers, Slade and Hill, New York, which is to conduct the Opinion Survey.

WOMANS' AUXILIARY. The Council was pleased to learn that a member of the Auxiliary, Mrs. Edward P. Allen, New Haven, had been invited to present a progress report on the activities of her State Committe on Health Careers at Convention of the National Womans' Auxiliary in Miami, June 1960. The Council expressed the hope that Mrs. Allen would be able to accept the invitation and attend the meeting to report on the work of the Auxiliary's Committee in this field.

REQUEST FROM THE BOARD OF TRUSTEES OF THE FAIRFIELD COUNTY MEDICAL ASSOCIATION. It was VOTED to table action on a request from the Fairfield Association that the Council appropriate Society funds for the purpose of reimbursing the Fairfield Association for certain monies it had spent or might spend for the development, printing and distribution of a Forand pamphlet among its members for use of their patients.

NOMINATING COMMITTEE. It was VOTED that the Chairman of the Council set a date for the first meeting of the Nominating Committe for 1960.

SUB-COMMITTEE ON REVISION OF THE BY-LAWS. The Chairman of the Sub-committee was reminded that any proposed revisions of the by-laws would have to be published in the March 1960 issue of CONNECTICUT MEDICINE if they were to be considered by the House of Delegates at the Annual Meeting.

DATE OF NEXT MEETING. It was VOTED that the Chairman of the Council and the General Manager set the date for the next meeting of the Council.

Remarks of the President in Connection with The Semi-Annual Meeting of the House of Delegates—December 9, 1959

Mr. Speaker, Mr. Vice-Speaker, Members of the House of Delegates, Guests and Observers:

I am indeed most happy to extend a cordial welcome to all here assembled, and particularly to the members of this House, who have given of their time and talents to answer this call of the Semi-annual meeting and to participate in the business at hand.

To encroach upon the time of this body, needed to dispose wisely of the agenda before it, is furthest from my mind. Nevertheless, if I were to neglect to remind you that big things *are* happening and *have been* happening on a state and national level, I would feel derelict in my duty.

The problems which have beset us on a state level are many and varied. We are not alone, however, in this predicament, as these same problems seem to manifest themselves in one way or another in every state across the land. If you read regularly your journal, "CONNECTICUT MEDICINE," you will be aware that our deliberations and relations with CMS are on the whole good, with an occasional ripple on its surface. Our biggest roadblock at the moment seems to be the mechanics of formulating a median family income level. This is not as simple a matter as it might appear.

Though there is a certain amount of urgency in developing a new contract in view of the national legislative quandry, I believe, nevertheless, that this should be accomplished in forthrightness, understanding and fairness to all. Your Council, your Liaison Committee and its Subcommittee have all worked hard and long hours and have assumed great responsibility, lest urgency be converted into an irrevocable impasse.

Respective committees have put in much time and effort in developing the Opinion Survey Questionnaire; also the nomenclature and pertinent factors relating to the Relative Value Study. Many other committees have been quite active, while others seem to have withered on the vine.

Your Society submitted a statement to the House Ways and Means Committee in Washington, D. C. in July opposing the Forand Bill, HR 4700. You were represented there by your president. The hearings, which extended over a period of five days, were probably the most animated ever to be held on proposed legislation affecting the private practice system of medicine. Some 40 states submitted statements for the record opposing HR 4700, and 33 state medical societies requested time to be heard before the committee. Informative meetings, almost reminiscent of the days of the Minute Men, were held nightly by the many state society representatives and legal representatives of the AMA. Their Washington, D. C. office did an excellent job, as did their law department in advising state medical society representatives and holding moot hearings each evening.

Between 9 and 10 a.m., every morning attempts were made, often successfully, to reach our senators and especially our congressmen at their offices. The hearings began promptly at 10.00 a.m and lasted pretty much throughout the day. This is where we found out who our friends and allies were, and at the same time we were appalled by the amazing political and legislative power of our adversaries.

It is in connection with this latter statement that I am reminded of the big stake the entire free enterprise system holds in this matter of our retaining the private practice system of medicine. It should be obvious to all that, our biggest bulwark, our most powerful weapon of defense, against the socialization of medicine is our support of the voluntary medical care plans, whether they be the private insurance companies or our Blue Shield plans, it being understood that we have a proper voice in them—and you should know that your officers continue to exert emphatically that concept. We cannot go to our congressman via the front door and say, "This is our alternative to Forand-type legislation," and then have him look out the back door to see us beat down the very ramparts we have set up.

This year many members have taken an active part in Society activities, along with your officers and special representatives. Among these activities which were well attended was the July AMA Relative Value Conference in Boston, where 34 of our members appeared—The Connecticut State Medical Society representation being the largest of any of the six New England states including that of New York state which also participated in this conference. In September, at the AMA Conference on the Problems of the Aged and Aging in Boston, you were represented by your general manager, the chairman of the Committee on Aging and your president. Two of us participated officially in the program. The general membership attendance from our Society was not as great at this conference as it had been in the July conference on relative values.

At the AMA Legislative Conference in St. Louis in October you were represented by three officers, one committeeman and one appointed member. This was an extremely instructive and important conference which led, not only to our own State Society's Legislative Conference, but also to the many panel discussions with congressmen in several areas about the state. Activities in the legislative area will continue well into 1960 with the re-convening of the 86th Congress on January 7 of that year.

Thank you for coming to this session and for giving me this opportunity to talk to you.

Ellwood C. Weise, Sr., m.d.

Report of the Chairman of the Council Semi-Annual Meeting of the House of Delegates December 9, 1959

Since the last meeting of the House of Delegates on April 28, 1959, your Council, or a subcommitee of the Council, has been meeting to a great extent on a weekly basis. The meetings have been faithfully attended even though on occasion the meetings have extended beyond five hours. I am pleased to report that the affairs of our more than 3,200 members are being studied with close scrutiny and attention to detail. In its efforts, the Council has been commendably assisted by the dedicated service of the office staff, capably directed by our Executive Secretary and General Manager, Dr. William Richards. I also would like to cite the faithful services of Mrs. Josephine Lindquist and the secretarial staff, Mr. James Burch, Dr. Dennis O'Connor and Dr. Louis Nahum in the Journal office. Without the able assistance of these people, the work of your Council would be hampered seriously.

The proceedings of the Council have been fully reported in the State Journal. In this report I shall comment solely on those topics that warrant additional remarks.

A generous portion of the time of your Council has been devoted to an intensive educational effort aimed at remedying the apparent lack of awareness of the individual physician of this state of the socio-economic pressures being brought to bear today on the medical profession. Even among most physicians who have shown some acquaintance with the pressures being exercised on organized medicine, we too often hear expressions of defeatism usually expressed as "we cannot do anything about what is inevitably going to happen." We are concerned by such attitudes because it indicates an unwillingness to defend and struggle for what is at stake—a system of medical practice, free of politics, and delivering the best quality medical care—. Such attitudes indicate a failure to remember that our profession has been given a trust by society and on behalf of that society we must always protect good standards of medical care. If in time, in spite of the physician's pointing out to his patient current dangers to good medical care contained in some of the proposed remedies of the solving of the financing of medical care, our patients foster such schemes, then our patients cannot turn on their physicians and inquire why we permitted any deterioration in the standards of good medical care. An interesting observation could be made on the qualifications of many of the non-medical people who are constantly spelling out sure fire methods of solving medicine's economic problems. Very often these people by their statements reveal a very poor background in the study of humanities and a lack of awareness of the history of civilization. They have much in common with those people in the field of education who are strong on methods but weak on subject matter. Most of these people are found in the vanguard of the so called liberals who would have us spend our sustenance so recklessly that bankruptcy becomes inevitable. Unfortunately they have been successful to the extent that our Federal Government now has a staggering indebtedness of 750 billion dollars and a dollar saved for years of retirement is being progressively inflated so that it buys less and less in the common marketplace. These are the people who tell us that as physicians we know nothing and what's more should have nothing to say about medical economics. It is our position that on the basis of experience and education organized medicine is better equipped to offer solutions to the problems of financing medical care.

But if medicine is to carry out a program of intelligent medical economics the individual physician must pull his weight on the oar. You must give to those you have chosen as your leaders the benefit of your thinking on medical economic problems. To that end you are presented today with a recommendation to activate and finance an opinion survey and relative value study. It is the considered opinion of the Council Subcommitee on the opinion survey that this project should be conducted prior to and independent of the relative value study. Your Council concurs with this recommendation. Having completed these studies your officers will be in a position to exercise more confident leadership in pursuing the objectives of good medical care with due consideration to the financial means of our patients. At that time it will not be likely that the position taken by some of your officers at a recent meeting with a congressman will be challenged as not representing the opinion of the majority of physicians. Each month in the State Journal a special section has been devoted to the opinion survey and relative value study so as to better inform the membership in these areas and to assist our physicians in orienting themselves in anticipation of the more detailed questionnaire on the subject of relative value and opinion survey. Having obtained the benefit of your thinking your Council will be better able to answer questions which are being asked persistently today by government, the public, and third party agencies.

From July 13, to July 17, 1959, the House Ways and Means Committee conducted hearings on House Resolution 4700, The Forand Bill. The members of this Society were commendably represented by our President, Dr. Elwood Weise, who submitted a statement to this hearing representing the thinking of your Society on this proposal. It is the duty of each physician to become acquainted with the provisions of this bill. Your Council is making every attempt to educate not only its membership but also the public to the importance of this proposal and its shortcomings. The American Medical Association on October 2, and 3, 1959, held an informative symposium in St. Louis on House Resolution 4700, and our own Society held a similar meeting here on October 14, 1959. The AMA Meeting was attended by five members of the State Society who in turn brought the results of the AMA session to our own State Meeting, which was attended by about 50 members of the Society who are officers of County Medical Societies and members of key committees of the Societies. The Medical Profession's evaluation of the Forand Proposal will be presented to each of our congressmen and senators by physicians individually as citizens interested in proposed legislation pertaining to medical care. It is urgent that each and every physician having become informed on the contents of the Forand Bill discuss its provisions with his patients.

It must be remembered that when congress reconvenes on January 7, 1960, House Resolution 4700 will be reconsidered. It has been the history of Social Security Legislation that the benefits have been extended in each general election year since 1936. This proposal has high emotional appeal. If enacted it will be the foot hold in the door for a national compulsory government health program. The majority of the proponents of this bill were and are advocates of such a governmental system of medical care. For the first time under Social Security Legislation a service benefit will be given, where-as until now the benefits of social security have been solely cash benefits. We recognize that a problem exists in financing the health needs of the aged, equally with the problem of the decreasing value of the dollar, the problem of food and shelter and a sense of being part of the community in spite of restrictive retirement regulations at age 65. We recognize the problem but deny that it is a Federal problem. With the tremendous growth of voluntary insurance we believe this mechanism is being used to solve the problem. If the Forand Bill is passed, the voluntary health movement will be doomed. The history of governmental medical care shows it to be excessively costly. Preliminary estimates of initial costs of this proposal ranged from 1.2 billion dollars to 2.3 billion dollars and in no way begins to answer the needs of the elderly and the retired. The proposal denies that children have a family responsibility for aged parents. Free choice of physician is compromised. Until the findings of the White House Conference on aging in 1961 are available no Federal Legislation should be enacted. These are a few of medicines objections to the proposed legislation. I recommend to you that you discuss these objections with your patients so they may know the full impact of the proposal. In order to keep the membership informed on these and other subjects of interest to you and to your patient the Council recently authorized the Journal to publish as a supplement to the Journal a brief Newsletter covering developments in the relation of the patient and his physician and the financing of medical care. In addition your Council has asked the Blue Cross of Connecticut to give consideration to expanding the availability of its program to more of the community in the age group 65 and over.

Of equal interest to every member of this Society is Connecticut Medical Service, Incorporated. A considerable amount of time and discussion by your Council has been devoted to CMS. The opportunity of interchange of opinion between the officers of your Society and the Blue Shield Plan are numerous. Not only do we have half the member roll on the Board of Directors of CMS but we also have a Medical Advisory Committee and now a Liaison Committee discussing mutual problems. Your representatives however must continually look to this House of Delegates for direction in advising with CMS on matters of medical policy. We are aware of your direction that no more than 50 per cent of the subscribers should be covered under the service benefits schedule and of the procedures to be followed prior to the public sale of any new contract or changes in existing contract.

Your Council is aware also that the medical profession is being asked to take a new look at some of the principles the Society endorsed 11 years ago when 1,500 physician members of this Society agreed to underwrite the program's financial security. The review of these principles adopted in 1948 show constant repetition of the phrase "Low income working population." What is low income today? Apparently regardless of what low income is today the medical profession is being urged to expand the service benefit principle so that more nearly 75 per cent or more of all the subscribers would be on a full service benefit schedule. Among the reasons given for this pressure are (1) the public is demanding such coverage—and (2) the Blue Shield needs this service benefit advantage for competitive purposes. Much thought and time has been devoted to trying to arrive at a fair median income level for the subscribers of CMS. At the present time an ad hoc committee of the Joint Liaison Committee is trying to determine a satisfactory manner by which to arrive at a median family income level. In the discussion of alternative methods at arriving at this figure, it is being suggested that in determining the percentage of service benefit rendered in the program that only contractual service benefits be considered. In effect, if a physician gave service benefits to a person not entitled to service benefits in accord with the contract, his contribution to the subscriber would not be considered as a service benefit. Again the percentage of service benefits rendered under the program would be related only to surgical benefits. Although your representatives have definite opinions on these matters, I feel we should receive from this House of Delegates concrete directions in regards to what services given by the physician will be considered in arriving at the percentage of service benefits rendered. Your Council feels that there should be an early agreement on a new contract and that major medical coverage should be part of any new contract proposal. The Council has asked that Connecticut Medical Service, Inc., consider the advisability of the major medical coverage being underwritten by National Indemnity of America, Inc., an affiliate of National Blue Shield Plan.

A film titled "The Story of CMS" prepared by CMS and National Blue Shield was shown to the Council on its completion. The film outlines the history of CMS and what it feels is necessary in the area of future development. After viewing the film the Council discovered some inaccuracies in some of the legend, and thereafter joint representatives of CMS and the State Medical Society re-edited the text. The film was developed primarily for showing to physician groups.

The statement of basic principles of CMS 1959 jointly considered by the Liaison Committee of the State Medical Society and CMS was published in the September 1959 issue of the State Journal after general agreement that the principles were stated clearly and forthrightly.

A request of the New Haven Medical Society was directed to the Council, relating to the coverage by CMS of anesthesia services. The request was forwarded with Council approval for consideration by CMS. This in summary represents the deliberations to date between the State Medical Society and the Connecticut Medical Service, Inc. At the last meeting of the Council the medical members of the Board of Directors of CMS were invited to attend. Interchange of opinion seemed worthwhile and it is likely that future meetings will be arranged.

Early in the summer a Directive from the Commissioner of Welfare relating to the use of prescription forms for medicines ordered for State Welfare Beneficiaries caused considerable comment and action by physicians and County Medical Associations. The Advisory Committee to the Commissioners of Welfare and of Finance and Control have studied this problem and made recommendations to the Councl. The Council forwarded these recommendations to each of the County Medical Associations, and when six of the eight County Medical Associations indicated approval of the recommendations, the Council voted to approve these recommendations. It was further voted to request of the Advisory Committee that they give additional consideration to the unfavorable action and comments of the governing bodies of Windham and Tolland County Medical Associations. The action of the Commissioner of Welfare is typical of government sponsored medical care programs. When problems of costs enter the picture, there is immediate curtailment and regulation and restriction of the benefits available under the program. This action of the Commissioner of Welfare is a good example of what may happen if there is further intrusion of government into the field of medical care.

The Council recommended that in the interest of economy it would be advisable to hold the Annual Meeting of the Society at a permanent site, preferably Hamden High School. It is planned at present that the Annual Meeting will be held next year on April 26, 27, and 28, at the Hamden High School. In this connection Hartford County has waived its turn to be host for the 1960 Annual Meeting. If it is to be the policy of the Society to hold its Annual Meeting at the same site each year it will be required that some changes be made in the by-laws regarding the committee on arrangements; otherwise one County Society would be responsible for the arrangements each year. This matter is now under study by our by-laws committee.

The Council has considered the report and recommendations of the budget committee for 1960 and they have presented to you the proposed budget for 1960 and the proposed dues, and both these items have been considered and approved by your Council. Other actions by the Council relating to AMEF, the definition of the Secretary of the Society and the General Manager in the by-laws and the formation of a section on allergy in the State Medical Society are on your agenda for consideration.

In closing, let me express the appreciation of the Council to those members of committees who during the past several months have been of great assistance to the Council in the carrying out of its responsibilities.

Meetings Held in January

6 CMS-CSMS Joint Liaison Committee Council
7 Committe on Relative Value Study
12 Committee on Third Party Payments
13 Committee on Postgraduate Education
14 Committee on Public Health
Joint Conference Committee with State Bar Assoc.
Advisory Committee on School Health
Committee on Public Relations
19 CMS-CSMS Joint Liaison Committee
20 Advisory Committee on Nutrition
Committee on Accident Prevention
27 Special Meeting of House of Delegates
Committee on Maternal Morbidity and Mortality

PLACEMENT WANTED

Norman Jepsky, age 29, M.D. Tufts University 1955—Speciality: Pediatrics—Available July 1960.

Erica Solaric, age 34, M.D. University of Vienna 1950—Specialty: Pathology.

ANY MEMBER OF THE SOCIETY KNOWING OF AN OPPORTUNITY FOR PLACEMENT OF THE ABOVE PHYSICIANS IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

PHYSICIAN REGISTRATION FEES

Each person holding a license to practice medicine, shall, annually, during the month of January, register with the State Department of Health, on blanks to be furnished by that department. The fee for this registration has been increased from two to five dollars. *Physicians who have retired from active practice, or who live outside of the state, or who have suspended their practice for any reason whatsoever,* are required to register, but shall not be required to pay the registration fee.

NOW
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ABOUT
YOUR
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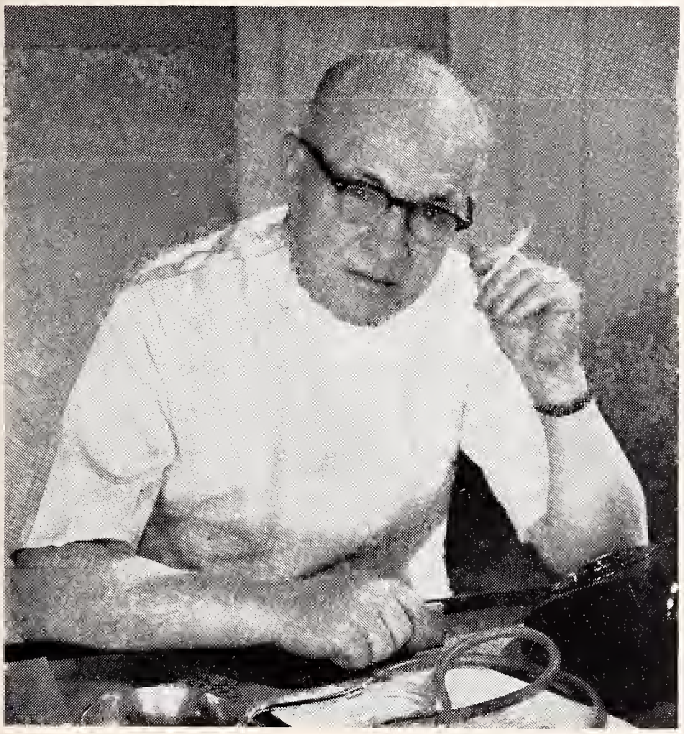
DOCTOR...



Everyone knows that doctors, occupied full-time with the care of others, very often ignore their own health and well-being.

Before you snort your impatience with this axiom—or deny it—let's look at some facts contained in a 13-year study of the estates of members of the Hartford County Medical Association. For one thing, the study showed that doctors between the ages of 41 and 50 die at a rate twice that of the general population; and that the death rate for doctors between 61 and 70 is half again as much as that shown in standard insurance mortality tables.

And that's not all. Think of the surviving family members. The survey did, and found that of the 144 deceased doctors included in the study:

34% had left no will
13% were in debt at the time of death
31% left net estates of less than $10,000
62% were survived by their wives and families.

Is this the kind of situation you'd prescribe for your family?

* * *

Hartford National's Trust Department can help you provide for your family's future financial security by coordinating all your family assets—life insurance, real estate, securities and savings deposits—into a single, private arrangement that not only minimizes estate settlement expense and delay, but provides a permanent yet flexible financial plan as well—including the possibility of attractive tax savings. Call or write Mr. William Dickinson at the Trust Department of our Main Office, 36 Pearl Street in Hartford, and arrange for a confidential discussion of your financial condition. It could be one of the most important appointments you've ever made.

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Special Article

A Study of the Hospitalized Aged*

John T. Foster, M.P.H.†
Stamford

The financing of health services for the aged is a growing political issue in the U.S. that merits the continuing attention of medical leaders. Focal point of the issue today is the so-called "Forand Bill" which proposes federal payment of medical expenses for the aged through the Social Security mechanism. Strongly supported in Congress by the A.F.L.-C.I.O. and opposed by the American Medical Association, the Forand Bill is expected to receive maximum support in the election-year Congress of 1960. Additional pressure for federal solutions may well be generated by the forthcoming White House Conference on Aging.

While various samplings on a national scale have produced some general statistics relating to the medical-economic problems of the aged, there is a paucity of studies of these matters at the community level. The purpose of this study is to present the findings of research in one general hospital in one Connecticut community as an example of the kinds of data that are needed if community leaders are to act and speak intelligently on the issues that are sure to be raised.

The National Scene

A brief review of some of the more common generalizations about the aged is needed. Unquestionably the proportion of elder members of the general population is increasing. It is generally accepted that in the U.S. at least eight per cent of the population is now age 65 or older. The Connecticut State Department of Health has estimated that persons in this age group will make up 10 per cent of the state population by 1960. At the same time there has been a continued increase in per capita expenditures for medical care in general. Spending for hospital care alone—even after adjustment of the dollar purchasing value—tripled in the U.S. from 1935 to 1953.[1] While the income-earning population cushioned this increase by not only increased productivity but also by participation in the rapid growth of medical pre-payment plans, the aged have had both less real income and less insurance. The Health Insurance Institute estimates in a recent study that 35 per cent of age 65 persons have health insurance in contrast to 63 per cent of the population between 60 and 64 and to 77 per cent of the population between 30 and 50 years of age.[2] Other studies have estimated that as few as 23 per cent of the elderly have insurance protection. Another study demonstrated that the age 65 person averages 40 per cent more out-of-hospital contacts with physicians than the national average for all ages.[3] The overall cost of hospitalization is "from three to four times that of those under age 65," according to Ray E. Brown, director of the University of Chicago Clinics.[4]

The Stamford Study

To develop statistics that would provide some measure of the impact of the aged patient upon hospital practice currently and also a baseline from which to measure future trends, 938 consecutive admissions to The Stamford Hospital in the early summer of 1958 were studied. This research was concerned with three broad areas: (1) The proportionate utilization of the hospital by aged patients, (2) The medical factors that might account for age differences in utilization, and (3) The financial factors that might characterize the aged patients.

No claims are made for typicality of the findings beyond the one hospital. The Stamford Hospital is, however, close to "average" among the 34 acute care voluntary hospitals of Connecticut. With 310 beds and 38 bassinets, it ranks midway between the smaller rural hospitals and the state's large centers in Hartford and New Haven. Cost figures for various hospital operations are median. While the

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* Department of Public Health, School of Medicine, Yale University, and The Stamford Hospital.

† Mr. Foster is a graduate of Colby College (1940) and the Yale Program in Hospital Administration (1959). He is a Fellow in the American Association on Mental Deficiency and a Nominee in the American College of Hospital Administrators. He is now Assistant Administrator at The Stamford Hospital.

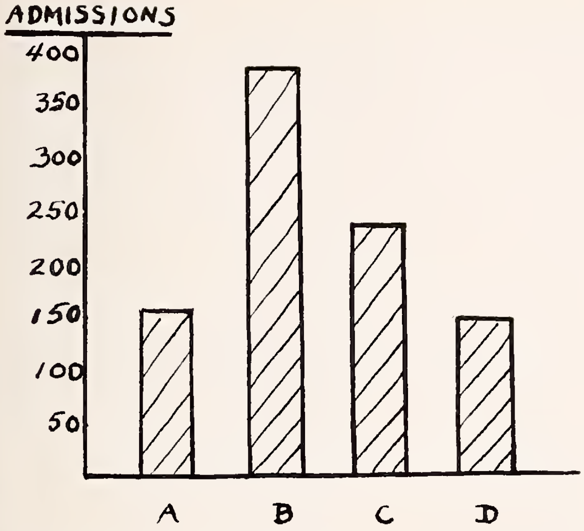

Chart I
Numbers of Patients Admitted by Age Group
Key: "A" — Under 15 Years
"B" — 15 to 44 Years
"C" — 45 to 64 Years
"D" — 65 Years And Over

Stamford community has a high average income, it is an industrial community with a wide socio-economic range in the population. The community offers no specialized geriatric facility beyond a typical range of proprietary nursing homes. The Stamford and St. Joseph's hospitals are general hospitals with the usual range of services of community hospitals.

Age and Hospital Utilization

Charts I, II, III and IV portray the statistics of hospital use by the 938 patients as divided into four broad age groups: Under 15 (A), 15 to 44 (B), 45 to 64 (C), and age 65 and over (D). In the first chart, the 138 admissions of age 65 patients represent 14 per cent of the total (half again as high as this group's share of the general population). In Chart II the average days of hospital stay for each of the age groups shows a straight line increase with age. The aged group averaged a stay of 12 days (13.9 days for males and 10.6 for females) in contrast to the average for the 938 of 7.6 days. Chart III shows the division of the 7,118 hospital days incurred by all the patients for each age bracket. The utilization by the aged represented 24 per cent of all days. Since the hospital has an occupancy rate of

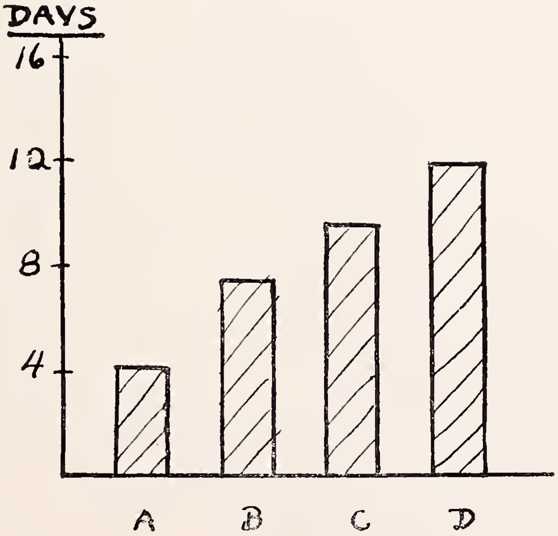

Chart II
Average Days of Stay by Age Group

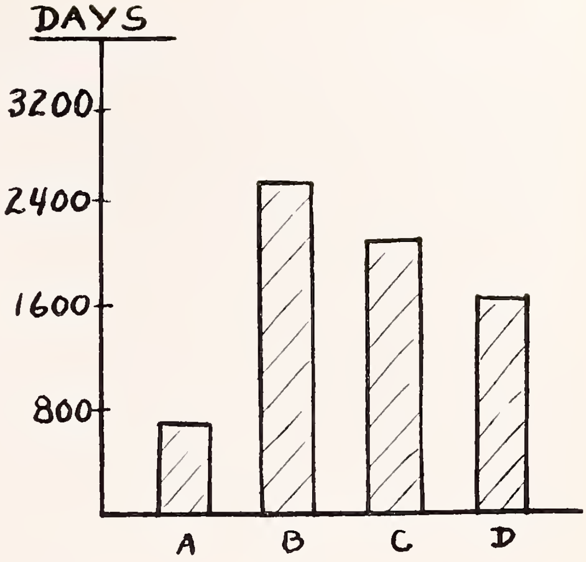

Chart III
Total Hospital Days Incurred by Each Age Group

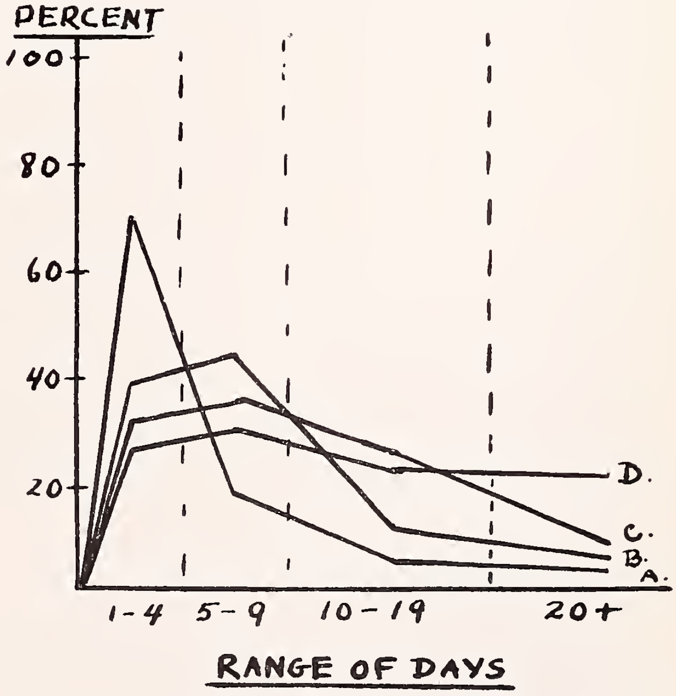

Chart IV
Distribution of Selected Ranges of Hospital Stay
by Age Group

about 80 per cent, one can conclude that elderly patients were occupying one of every five available beds or one of every four occupied beds.

While averages measure overall effects adequately, they can also hide significant characteristics. One of these is demonstrated in Chart IV which shows, for each age group, the percentage who stayed in the hospital for selected periods. Of special interest is the "peaking" of cases in the five to nine day range for all except the youngest patients. As borne out in the later discussion of charges incurred by patients, this suggests that elderly patients are benefitting from such short-term services of the modern hospital as diagnostic procedures, surgical repair and various intensive therapies much as are younger patients.

Medical Factors

The notion that the modern hospital is no longer "just a place to die" is further supported by the relatively small number of deaths among the patients studied. Of the 938, 27 died in the hospital. Of the fifteen age 65 patients who expired, six died within the first 48 hours of admission. The net hospital death rate for the elderly was thus only 6.5 per cent.

In attempting to analyze discharge diagnoses to account for the longer average stay of older patients, one finds the task complicated by the fact of many patients with more than one diagnosis. Since it is not always clear which diagnosis accounted for what share of hospitalized days, it was decided in this study to analyze patients with one diagnosis apart from those with multiple diagnoses. In this division of patients, marked age differences appear as shown in the following table:

Per Cent of Patients with Single and Multiple Diagnoses and Related Length of Hospital Stay by Age Groups

	UNDER 15	15-44	45-64	65-PLUS
Single Diagnosis:	96%	87%	73%	59%
Av. Stay	4.1 days	6.3 days	7.9 days	10.1 days
Multiple Diagnoses:	4%	13%	27%	41%
Av. Stay	7.7 days	8.7 days	11.2 days	15.0 days

Another age difference was found when those who underwent surgery were separated from those other patients who had been "medically treated" or subject only to surgical observation while hospitalized:

Per Cent of Patients Undergoing Surgery by Age Group and Related Length of Stay

AGE	% WITH SURGERY	AV. SURGICAL STAY	AV. STAY OF OTHERS
Under 15	65%	3.9 days	5.0 days
15 to 44	61%	6.5 days	7.9 days
45 to 64	39%	9.1 days	9.7 days
65-Over	28%	14.4 days	13.1 days

A generalized view of the incidence of various conditions among those patients who had two or more discharge diagnoses is shown in the table below. A conspicuous age difference again appears, and the significance of cardiovascular disorders among the older patients is notable. Because of the small number of young patients with multiple diagnoses, these are not included.

Per Cent of Occurrence of Selected Diagnoses among Patients with Two or More Diagnoses by Age Groups

	65 YEARS AND OVER	45 TO 64 YEARS	15 TO 44 YEARS
(Total Cases)	(56)	(66)	(50)
Cardiovascular	73%	44%	16%
Orthopedic	30%	21%	22%
Gastrointestinal	23%	41%	34%
Respiratory	21%	26%	6%
Neoplasms	19%	10%	6%
G.U.-Gyn.	18%	19%	40%

Some measure of the comparative effects of various diagnoses upon hospital utilization is possible in those cases with only one area of diagnosis. For each age group, the following table shows the four leading diagnostic areas in terms of the percentage of each age group's days in the hospital:

Conditions Responsible for Major Hospital Utilization among Patients with Single Discharge Diagnosis

AGE	CONDITION	PER CENT OF GROUP DAYS
Under 15:	Gastrointestinal	24%
	Orthopedic-Traumatic	18%
	Respiratory	16%
	E.E.N.T.	12%
15 to 44*:	Gastrointestinal	25%
	Orthopedic-Traumatic	17%
	Genitourinary-Gynecological	15%
	Neoplasms	14%
45 to 64:	Gastrointestinal	24%
	Cardiovascular	14%
	Genitourinary-Gynecological	14%
	Neoplasms	13%
65 and Over:	Cardiovascular	25%
	Orthopedic-Traumatic	23%
	Gastrointestinal	15%
	Neoplasms	12%

* Note: In 15 to 44 ages, maternity cases accounted for 27% of all group days, but have been omitted here for purposes of comparison with other groups.

From the foregoing tables, it seems clear that some objective differences beyond reduced power of recuperation are true of the aged as compared to younger patients. Among these seem to be (1) the increasing incidence of multiple diagnoses and a resulting increase in hospital stay, (2) a lesser incidence of surgery, and (3) an increasing incidence of chronic conditions.

Financial Factors

As a measure of the economic burden of hospitalization, it is notable that the 138 persons in the age 65 group incurred hospital charges of nearly $60,000. Since these admissions represented one month's experience, the annual total would approach $720,000 and this for just one of the two community hospitals. The gross monthly billing represented 24 per cent of the billing to all patients in the study (note that this is the same per cent as for the elderlys' share of total hospital days). The average billing per patient was $433.70 which can be compared to the $307.35 average for patients 45 to 64 and to the $239.41 average for patients 15 to 44. While these represent hospital *charges,* not actual collections, it is also true that they do not include the charges of physicians nor post-hospital costs. As a point of perspective, it is also important to recognize that the recipient of Social Security today receives between $55 and a maximum of $120 a month.

As in the matter of average hospital stay, it is worth noting again that the "average" is not always the most typical statistic. Among the age 65 patients, the most *typical* billing per admission was in the $100-$200 range, a fact that was also typical of all but the youngest patients. That the *averages* were higher was due, of course, to the large number of cases falling into the higher $100 ranges. Among the elderly, for example, seven per cent had hospital bills that exceeded $900 and 15 per cent had bills over $600.

These data accentuate the importance of financing hospital expense—the crux of the Forand Bill issue—and lead naturally into the final discussion of this report: the resources of the patients. Here a most striking fact is the growing role of third-party agencies in current hospital practice. *Only 141 of the 938 hospital accounts were not covered in some part by such agency arrangements!* At the Stamford Hospital, a total of 23 such outside sources of patient care financing are recognized, only one of which is the well known Blue Cross system. Federal sources are still minor in volume but include three agencies that now pay hospitals for emergency care. These are the Public Health Service for members of the merchant marine, the Veteran's Administration for veterans, and the military services for service members and—through "Medicare"—for their dependents. In Connecticut the veteran in need may receive support from the Soldiers', Sailors' and Marines' Fund and—for care before transfer—from the Rocky Hill State Hospital. The State Department of Welfare operates five programs including Old Age Assistance, Aid To Disabled, Aid to the Blind, Child Welfare, and Aid to Dependent Children.

For this research, all recipients of public funds were grouped. Another grouping were those who were members of a Blue Cross plan (primarily those of Connecticut and of the New York City area). A third grouping were those patients without Blue Cross but having some form of commercial hospitalization coverage. The final group was made up of those patients without third-party support and herein labeled "self pay."

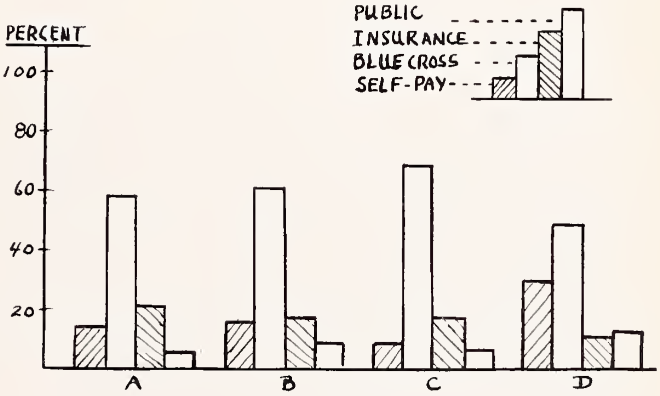

Chart V

Distribution of Primary Sources of Funds for Hospitalization by Age Groups

In Chart V the proportions in each age group of these different types of resources are shown. The importance of Blue Cross is conspicuous. A total of 569 of the 938 patients had Blue Cross (not all had Blue Shield although this could not be counted accurately). The greatest Blue Cross participation was the 69 per cent in the 45 to 64 ages. The lowest percentage was, as anticipated, the 48 per cent among the elderly but this was high enough to offer some encouragement to those who hope for "voluntary" as opposed to federal solutions to hospital financing. Until the past year, commercial insurance has seldom been available to age 65 persons (in fact, most such policies were cancelable at age 60 or 65) except for those still actively employed and covered by company group plans. Nonetheless, 10 per cent of age 65 patients did have commercial coverage so that, with the Blue Cross participation, one can conclude that three of every five elderly patients in the study did have some prepayment assistance.

While encouraging, this participation in insurance plans still leaves a large share of the elderly whose bills were paid out of public programs (12 per cent) and an even larger number in the "self pay" category. The 29 per cent in the latter group represented three and one-half times as high a proportion as in the 45 to 64 age group. This is a serious discrepancy and a measure of the need for some system of amelioration.

Summary

At the Stamford Hospital, Stamford, Connecticut a group of 938 consecutive admissions in the early summer of 1958 were analyzed to determine the special characteristics of patients age 65 and older. A national generalization that the elderly have from three to four times the cost of hospitalization of younger patients was supported by the findings. With less than 10 per cent of the general population, the elderly made up 14 per cent of the admissions and had an average hospital stay nearly twice that of the younger patients. Somewhat more of the elderly were found to have hospitalization insurance (59 per cent) than current estimates for the nation as a whole (23 per cent to 35 per cent), but this participation was still less than for other age groups. Some differences in diagnostic conditions among different age groups and an accelerating tendency to multiple diagnoses per admission among the older patients were also found. The findings support the importance of community-wide exploration of the problems of the hospitalized aged.

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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933

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CLINICAL PATHOLOGICAL CONFERENCE

NORWALK HOSPITAL

NORWALK

Conducted by ROY N. BARNETT, M.D.

FEBRUARY 13, 1959

Discussed by THOMAS G. KANTOR, M.D.

Case History

This 69 year old white female was admitted to Norwalk Hospital on October 28, 1958.

Chief Complaint

Migrating joint pain in right knee and shoulder joints and backache.

Present Illness

Patient claims that she had been suffering from migratory joint pains for the past years involving the smaller phalangeal joints and knee joints. For the past six months she had been taking some oral steroid medication in unknown dosage with slight relief. She had received injections of her right shoulder joints in the past. Two weeks ago she noticed swelling of her ankle and right knee. Two days prior to admission she felt pain over her right knee, radiating toward the hip joint and accompanied by mild chilly sensation on the day of admission.

Past History

Cholecystectomy 10 years ago. Patient was hospitalized on 11-4-56 with the complaint of left hypochondriac pain and belching. Intravenous cholangiography showed definite but faint concentration of dye in the biliary radicles and common bile duct. The common bile duct appeared to be dilated and measured up to two cm in diameter. The common hepatic duct was also dilated. Barium meal examination demonstrated a small esophageal hiatus hernia of the short-esophagus type. After five days patient was discharged with the final diagnosis of para-esophageal hernia and status post cholecystectomy.

Review of Systems

She had been suffering from diabetes mellitus for the past six years and had been controlled by low sugar diet. Lately she has been having polyuria and polydipsia.

Family History—non-contributory.

Physical Examination

Temperature 99.4; respirations 20; pulse 85; blood pressure 140/80. Patient is slightly obese, conscious, cooperative patient, with slight hirsutism.

Head and Neck

Eyes: Mild senile cataracts; pupils reacting to light; fundoscopic—small, old hemorrhage, left; no diabetic retinopathy.

Ears, nose, mouth, neck, throat: negative.

Lungs: No rales, breath sounds vesicular, clear to percussion.

Heart: Borders slightly enlarged, second pulmonic sound accentuated, rhythm regular, no murmur.

Abdomen: Slight ventral hernia of cholecystectomy scar appreciated on coughing. Liver and spleen not palpable.

Extremities: Shoulder and knee joints warm, no redness. Both knees show mild arthritic deformity with swelling and crepitation on movement. There is two plus pitting edema of the legs.

Roentgenograms:

October 30, 1958—*Knee and Wrist:* reveals marked degenerative arthritis of both knees with practically complete closure of the joint spaces. There is no evidence of acute destructive disease. There are several calcium deposits in the region of the tendinous insertion of the quadriceps. The wrist shows on the right side sclerotic changes in several of the carpal bones.

November 12, 1958—*Gastro-Intestinal Series:* reveals no intrinsic, organic disease. There is a small hiatus hernia at the cardiac end of the stomach.

November 12, 1958—*Barium enema* examination shows loss of haustral pattern compatible with early ulcerative colitis.

November 24, 1958—*Chest:* massive pleural effusion on the right side. The left lung is clear.

EKG interpretation shows sinus tachycardia.

Hospital Course

On her first day of admission, she was complaining of pain and swelling of both knees, followed by rise of temperature (102.4) on the evening of the second day of admission. This fever persisted for three days ranging from 101 to 102 and went down to normal without any antibiotic medication. Urinalysis report showed three plus to four plus positive for sugar and strongly positive for acetone. Her fasting blood sugar was 294 mg. She was placed on a diabetic diet (1,800 calories) and regular insulin as well as protamine zinc insulin 10 units daily.

On her fourth hospital day she complained of pain on the right side at the level of the right costal margin, which was aggravated by movement and relieved by lying on her right side. This was accompanied by chilly sensation. Her temperature was normal. Harsh breath sounds were heard in both lung fields with increased focal fremitus on the right side.

Aspiration of the knee joint was done on the sixth day after admission and 65 cc of serosanguinous fluid was obtained from the right knee joint and 15 cc of cloudy fluid was obtained from the left knee joint. Intra-articular injection of hydrocortisone, 100 mg. was performed. Culture was reported as showing no growth. After this medication, condition of patient became improved with much better movement of her knees. Orinase tablet was given, one tablet t.i.d.

On her fourteenth day after admission she complained of upper abdominal gas pain after eating. This was followed by nausea and vomiting the following day. Abdominal examination during this time revealed distention with tenderness along the right costal margin, and the liver was palpable three fingers below the right costal arch. Probanthine 15 mgm t.i.d., geluzil and prostigmine 1 mgm was given with good results. Stomach decompression was done by insertion of the Levine tube. I.V. fluid of Ringer lactate was also given. Patient's condition slightly improved, with no abdominal pain.

On 11-15-58, examination revealed tenderness in the epigastric region with slight muscle guarding. Rectal examination revealed internal and external thrombotic hemorrhoids on the posterior portion of the anal opening.

On 11-18-58 she had a rise of temperature (102.6) and two cc of combiotic was given for six days. Electrolyte series revealed deficiency in Na and Cl

Blood Examination

DATE	HBG.	RBC	WBC	POLYS	STABS	LYMPHS	SED. RATE	HEMATO-CRIT	MONOS	JUVENILES
10-29-58	12.0G 76%		10,600	71	13	16	43	44		
11-10-58	11.2G 70%	3.54M	16,900	66	11	21			2	
11-11-58	9.2G 58%	3.04	11,600	67	14	14			1	1
11-15-58	8.9G 56%	3.52								

VDRL—Negative

Urinalysis

DATE	SP. GRA.	COLOR	CHAR.	REAC-TION	ALBUMIN	SUGAR	ACETONE	RBC	WBC	CAST	EP. CELLS
10-29	1.030	yellow	clear	6	1+	4+	3+		0-3	few Hya.	few
11-19	1.013	yellow	cloudy	6	4+	neg.		0-2	8-10	few Hya.	
11-21	qns	yellow	clear	6	4+	neg.			8-10	few Hya.	
11-23	1.013	yellow	clear	6	4+	neg.			3-4		few
11-24	1.012	yellow	clear	6	3+	neg.			3-4		few

Liver Function Test:

11-13-58 Cephalin Flocculation Test = 24 hour reading 3+; 48 hour reading 4+
Total Bilirubin .2 mg/100 ml.
Thymol Turbidity 1.6 McLaglen units
Alkaline Phosphatase 17.3 K.A. Units

11-24 Serum Cholesterol 105 mg.

11-7-58 R A Agglutination—negative.

Stool Examination

11-12-58 Guaiac—4+
11-17-58 Guaiac—4+

Fluid Culture from Right and Left Knee Joint

11-5-58
11-7-58 } Negative (no growth)
11-10-58

PBI = (11-20-58) 2.9 gamma %

DATE		NPN	FBS	CO_2	NA	CL	K
10-29		15	294				
10-30			217				
11-15		38.3	73				
11-17			549	22	128	95	5.5
11-18			417	26	124	89	5.3
11-19	(7:30)		168				
	(9:30)		231				
11-20			294	26	122	88	5.4
11-21		69		26	124	91	5.0
11-22			441	23	132	103	4.5
11-22				22.7		107	
11-24			366	20	128	100	4.8

A/G Ratio

DATE	TOTAL PROTEIN	ALBUMIN	GLOBULIN
11-11-58	5.	1.6	3.4
11-20-58	4.5	1.7	2.8
11-22	4.8	1.3	3.5

and patient was given five per cent sodium chloride solution.

Later, condition of patient remained unchanged with abdominal distention, lethargy and often times confusion. Edema of the legs persisted. On 11-22 she received ACTH, 25 mg., I.V. fluid, cytomel five micrograms and thiomerin two cc.

On 11-23-58, patient became dyspneic with slight rise of temperature (99). Her abdomen was still distended. Miller-Abbott tube connected with Wangenstein suction was done with poor result. The following day, she complained of pain in the right upper quadrant, right lumbar region and shoulder. Auscultation of the chest revealed diminished breath sound at the right base. That same evening on 11-24-58 at 7:00 P.M., patient expired, 20 days after admission.

Discussion

Dr. Thomas G. Kantor: This case presents several different and important features as regards the history. First, she is a 69 year old woman with longstanding migratory arthritis which has presumably caused objective joint changes. This condition has been treated with steroids over a relatively long time. Secondly, she has diabetes which anteceded the steroid treatment. Third, there is a history of gall bladder disease with removal of the gall baldder 10 years prior to this admission.

We are given the additional information that a work-up performed two years ago revealed a complaint of upper abdominal pain and that intravenous cholangiography showed a greatly dilated common and hepatic duct system along with a small hiatus hernia.

Her presenting complaints on this present admission seem to be mainly related to the arthritis with an initial loss of control of her diabetes. The important features of her physical examination are the initial low-grade fever, the objective joint changes, and the important negative of a non-palpable liver. By the second day, there was a marked elevation of temperature lasting three days and subsiding spontaneously at which time there was onset of right upper quadrant-lower right chest pain. She apparently continued to have non-specific gastro-intestinal complaints and on the fourteenth day, there was right costal tenderness and the liver had suddenly become palpable. Subsequently, intestinal intubation and general supportive measures did little good and when her temperature rose again on the twenty-first hospital day, antibiotics were resorted to. The situation rapidly deteriorated and by the twenty-sixth day, there was dyspnea, disorientation, abdominal distention and ileus. Before her death, pain was noted in the right chest, abdomen and shoulder and diminished breath sounds were heard at the right lung base.

Before going into the laboratory and x-ray data, let me say that I believe the sequence of events leading up to her death are best explained by assuming a liver abscess which ruptured into the right subdiaphragmatic space on the fourth hospital day and then into the general abdominal cavity with production of peritonitis sometime after the twenty-first day.

Once this assumption is made, there are several possible causes for it. First, during her admission a barium enema was performed which, we are told, suggests the possibility of ulcerative colitis. However, there does not seem to be much clinical evidence for this and it is therefore unlikely that the arthritis or marked albuminuria suggesting amyloid disease could be on this basis. This, despite the attractive possibility that the liver abscess could be explained by infection ascending the portal system. Since the hemorrhoids are presumed to be nonbleeding, we then have no explanation for the four plus guaiac stools and it is still possible that ulcerative colitis must be seriously considered although greatly modified by the prior steroid administration.

A more attractive possibility is the concept of biliary obstruction with ascending cholangitis, cholangiolitis and, finally, abscess formation. A two cm, enlargement of the common duct noted two years previously is consistent with this diagnosis since this is somewhat larger than the usual physiologic dilatation seen following cholecystectomy. The absence of jaundice or septic course prior to admission again may be due to modification by steroid.

A third possibility would be one of the so-called collagen diseases and disseminated lupus fits the bill best. This patient has a deforming arthritis of the rheumatoid type with a normal latex agglutination. This screening test does miss some five to 25 per cent of rheumatoids but becomes more significant the longer the arthritis has been present. She also has a consistently elevated serum globulin, a negative culture of fluid aspirated from the knee joints and distinct renal change with persistent albuminuria and nitrogen retention. In addition, most of her real troubles began, presumably, at a time when her steroid dosage was reduced. This would be characteristic of lupus. Although the pleural effusion noted by x-ray is probably reaction to a subdiaphragmatic abscess or to actual rupture through the diaphragm, it is possible that lupus in exacerbation is the cause. The renal changes in lupus, despite the fact that glomerulitis is the major pathological change, not infrequently produce the picture of marked albuminuria and concurrent increasing nitrogen retention. Against the idea of the urinary picture being due to a pure nephrosis is the low serum cholesterol.

The hematological data is consistent with any of the above.

My diagnosis is liver abscess rupturing into the subdiaphragmatic space and abdominal cavity, probably on the basis of either stricture or stone formation in the common duct with ascending cholangitis, steroid modified. I would also like to suggest the possibility of underlying disseminated lupus erythematosus, with that or amyloidosis explaining the renal picture.

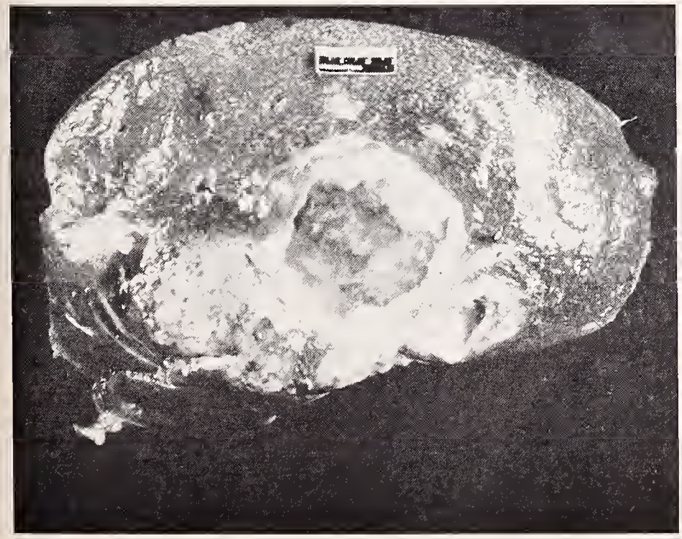

Fig. 1
Large multiocular liver abscess perforating into subdiaphragmatic space.

Further Comments

Dr. Richard Zucker mentioned the possibility of intercapillary glomerulosclerosis to explain the renal picture and noted that the low PBI could be readily explained by the very low serum albumin.

Dr. Mathew Locks doubted that ascending cholangitis could be present without the presence of jaundice whether or not steroid modified. He suggested the possibility of a ruptured peptic ulcer explaining the abdominal picture perhaps caused by the steroid medication. Pyelonephritis was also mentioned as a possibility.

Pathologic Report

Dr. Roy N. Barnett: When the abdomen was opened there was about 800 cc of a clear yellow fluid overlying the markedly distended stomach and intestines. The right upper dome of the diaphragm was tense and fluctuating, and beneath it lay a large subphrenic abscess containing about 800 cc of yellow-brown pus. The source of this was perforation from a large liver abscess seven cm in greater diameter (Fig. 1) with smaller surrounding abscesses. The wall was ragged, friable and not fibrotic. Histologically the abscess wall was composed of necrotic debris and polymorphonuclears surrounded by compressed liver parenchyma; there was no fibrosis. Culture of the abscess yielded Escherichia Coli. The left pleural cavity contained about 200 cc and the right about 600 cc of a clear amber fluid.

The *gallbladder* was absent. The *common bile duct* was dilated two cm in diameter and free of obstruction. No cholangitis was found in larger or smaller ducts. The *kidneys* were swollen, weighed 200 and 240 grams, and were slightly diffusely scarred. Microscopically there was marked thickening of the periglomerular arterioles and focal acute and chronic pyelonephritis. The *heart* was somewhat enlarged, weighing 460 grams, and contained numerous small myocardial scars. In the *pancreas* a paucity of islets of Langerhans was evident microscopically. The *adrenals* weighed 18 grams together and showed a relative lack of cortical lipoid. The *other organs* were not appreciably abnormal; specifically no colitis was present. The joints were not obviously deformed; no sections were taken.

The sequence of events as I interpret it was that the diabetes and steroid therapy provided a milieu of lowered resistance permitting the development of a purulent liver abscess. The colon bacilli most likely gained access to the liver from the blood possibly from pyelonephritis. The abscess developed rapidly, probably in a matter of two to three weeks, and perforated the day before death. Death was due to toxicity from the abscess.

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The BULLETIN

How many of our Auxiliary members subscribe to, and read, the BULLETIN? Since this is the official publication of the Woman's Auxiliary to the American Medical Association the information contained in the four issues is pertinent to all of us. We cannot all attend every meeting and each convention so that we may know the problems and policies of our organization at first hand but we can all read the BULLETIN. Each issue is devoted to a particular phase of auxiliary work—National officers, committee chairmen and their plans; Conference; state presidents (which gives a good comparison of state work); and Convention. Where else can you get so much information for only $1 a year? Connecticut has always supported the BULLETIN—we are behind last year's subscription figures at the same time—let's all get busy and promote it so that we can be on the BULLETIN Honor Roll for its 21st birthday celebration in Miami in June 1960.

County Notes

Fairfield—It has been voted by the Board of Fairfield county to award a second scholarship for para-medical careers. A tea will be held at Danbury hospital to interest students in nursing and to orient them with other fields open to students such as laboratory technicians, medical secretaries, physio-therapists, etc.

Hartford—On March 16th a book-author luncheon at G. Fox and Co. is being sponsored by Hartford County for A.M.E.F.

Litchfield—The members of this auxiliary and their husbands were delightfully entertained by Lederle Laboratories when they visited the Lederle plant in Pearl River, N. Y. in November to see and learn at first hand how various medications are made.

Middlesex—A new project has been introduced here. Each month a party will be given at the Connecticut State Hospital in Middletown for the elderly women patients of a ward which the auxiliary has selected.

New Haven—On February 4th a "Membership Get-Together Day" is planned to be held at the New Haven Medical Association Library. A hat workshop is one of the activities planned (here's your chance to design a new spring chapeau).

New London—A regular board meeting is scheduled for February to plan for the annual county meeting in April and the dance in May.

Windham—A hospital visit for students in the Willimantic area is planned.

ARTISTS ATTENTION

The Connecticut Physicians Art Association is planning to hold a 1960 Exhibit at the Annual State Meeting in Hamden High School, April 26, 27 and 28, 1960.

All previous exhibitors are being solicited to show their works at this meeting and new exhibitors among physicians and their families are cordially invited to join the group of Art Hobbists.

As usual collection centers will be established in each county where exhibits will be gathered, transported to New Haven in time for the hanging on Sunday, April 24, 1960, and returned to the collection center after the show where they may be claimed by the artists. The locations in each county will be published later. If preferred, however, exhibitors may deliver their works personally or by agent at Hamden High, April 24, 1960. The hanging fee for each exhibit will be $2.00 (two dollars).

Dr. John M. Freiheit, President of the Connecticut Art Association will be assisted in organizing the exhibit by Dr. Edward Williams of Southbury, Dr. Charles O'Neill of Hartford, Dr. Richard Starr of New London and Mrs. Orvan Hess of New Haven. From the Ladies Auxiliary the Art Committee is headed by Mrs. Edward Rosenthal of Hartford and one representative from each county, whose names will be published later.

Entry blanks will be mailed in February to former exhibitors. Additional blanks and further information may be obtained from Mrs. Ernest Rosenthal, 17 Pine Road, West Hartford, Conn.

In Memoriam

Arnold, H. Bruno—New Haven; Yale University School of Medicine, 1926; head of the Department of Physiatrics, Hospital of St. Raphael, New Haven, since 1946; formerly president of the New Haven Normal School of Gymnastics, founded by his father as Arnold College, which is now affiliated with the University of Bridgeport; served in the U. S. Navy with the commission of captain in World War II; served as medical examiner in Woodbridge and Bethany for many years; was consultant physician for the New Haven Curative Workshop, the Connecticut Veterans Hospital at Rocky Hill, and a member of the board of the New Haven Area Rehabilitation Center; served as a member of the State Board of Examiners for technicians in physiatrics; died January 7 at his home in Woodbridge following a brief illness, aged 57.

Phillips, Harry S.—Westport; University of Toronto Medical School, 1922; chief of staff at Norwalk Hospital; medical examiner in Westport for many years; served three years with the Army Medical Corps in World War II, with the rank of major; an avid hunter and fisherman, he died suddenly December 9 while hunting with companions on Cockenoe Island, aged 64.

The Doctor's Office

Francis J. Hyland, M.D., announces the opening of an office for the practice of obstetrics and gynecology at 135 Gulf Street, Milford.

Michael V. Sciortino, M.D., announces the opening of an office for the general practice of medicine at 539 Riverside Avenue, Westport. He will be joined by Dr. Rudolfo Di Massa of Stratford, an internist and cardiologist.

New Antibiotic Proves Effective For Minor Infections

Griseofulvin today was termed as an effective means of treating superficial fungus infections of the skin.

Dr. C. H. McCuistion, Jr., Austin, Texas, dermatologist, writing in the current issue of the Journal of the American Medical Association, said "griseofulvin is an effective antibiotic for superficial fungus infections and is safe in therapeutic doses."

Dr. McCuistion, assistant clinical professor of dermatology, Baylor University Postgraduate School of Medicine, reported on the use of griseofulvin in the control of ringworm infection of 28 children at the Austin State School for the mentally retarded and four private patients.

Treatment of the 29 patients suffering either ringworm of the scalp or ringworm of the body resulted in a cure in all but one case, he said.

The three patients with an infection of the finger nails and toe nails are still under treatment, he said, and the use of griseofulvin failed to cure one patient with an infection of the feet.

"No instance of intolerance to griseofulvin requiring reduction of the dosage of cessation or administration of the drug was encountered," Dr. McCuistion said.

Griseofulvin is a fermentation product of three species of penicillium, he said, and was isolated in 1939, the same year that the antibiotic effect of penicillin was discovered.

"Penicillium, the source of griseofulvin, emerged in 1959 as a still further boon to man," he said. "Of course, unheralded and unrecognized, this lowly mold has worked for man all along."

". . . like the sulfonamides and penicillin, griseofulvin was known many years before its value to man himself was appreciated. One wonders if perhaps a cure for cancer, tuberculosis, diabetes or mental illness is not now on the chemist's shelf."

Enlarged Arteries Found in Lungs of Heavy Smokers

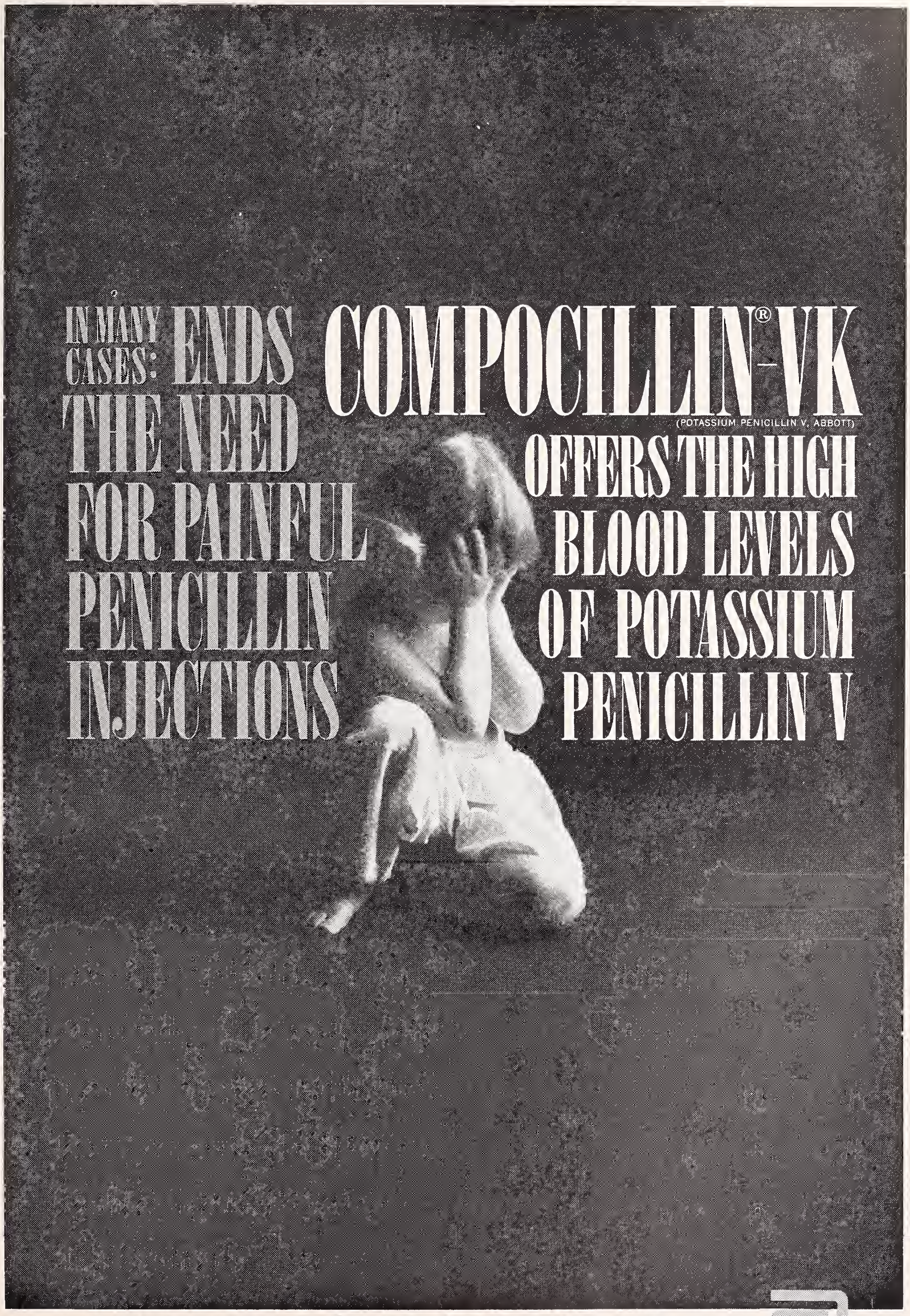
Significant variations in the diameter of arteries of the lungs of heavy smokers as compared with those of nonsmokers have been found in a study of chest x-rays.

Dr. Josue Pagan-Carlo, department of radiology, Touro Infirmary, New Orleans, reported the findings in the current issue of the Journal of the American Medical Association.

The arterial shadows on routine chest x-rays of 694 smokers and nonsmokers were measured by calipers in the study.

In the area of the right descending pulmonary artery, Dr. Pagan-Carlo said, the study revealed that average measurements of the arteries of heavy smokers were significantly higher than for nonsmokers.

A heavy smoker was defined as one who smokes more than 30 cigarettes a day.



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Around The State

David Russell Lyman Memorial Hospital Unit

The Gaylord Farm Sanatorium's new 48 bed David Russell Lyman Memorial Hospital Unit is scheduled to open on or about February 15 of this year.

Built at a cost of $900,000. in memory of the late Dr. David Russell Lyman, Gaylord's first Medical Superintendent, the new unit contains 48 private rooms and is specifically designed for the care and treatment of chronic and disabling illnesses.

Its completion represents the first phase of Gaylord's Development Program for the establishment of a modern in-patient comprehensive medical rehabilitation center.

New Haven County

Marvin Mogil was elected secretary of the Connecticut State Medical Society's Section on Allergy at a recent meeting. Other officers are: Edward Vioni of Bridgeport, president and Irving H. Krall of Hartford, vice president. Maurice M. Hillman, retiring president, delivered a statistical paper on his recent survey of allergic school children. Others present were: Frederick Kessler, George J. Piazza, Joseph Weiner, Paul Winer, and Noah Barysh.

Anthony J. Mendillo was made an honorary member of the Amity Club. As an honorary member, Dr. Mendillo will be the recipient of an honor last held by the late Dr. William F. Verdi.

DR. HORSTMANN REPORTS ON HER TRIP TO SOVIET RUSSIA

Dorothy M. Horstmann reporting on her trip to Russia to evaluate the mass live polio vaccine program emphasized in her report that at least another year is needed before a valid judgment can be made about the effectiveness of the Sabin vaccine as an immunizing agent in the more than 10,000,000 Russians who have now been vaccinated.

She added, however, that the marked reduction of poliomyelitis this year in orally vaccinated Soviet republics suggests that the vaccine may have played a significant role in reducing the incidence of paralytic poliomyelitis. Compared to the pattern of rising incidence in the past few years, and the five-year averages, the low incidence in 1959 in the U.S.S.R. has been impressive.

Dr. Horstmann praised the Soviet scientists working on the program as highly skilled and stated that the standards of laboratory work are good. The facilities are adequate and the laboratory personnel both at professional and technical levels is "extensive."

Surveillance of poliomyelitis in the U.S.S.R. is very good, Dr. Horstmann stated. Elaborate records are kept and the Ministry of Health in Moscow has set up a special notification system for poliomyelitis cases which requires the local physician to make an immediate report on any new case to regional and centralized offices.

Hartford County

Stevens J. Martin was recently presented with the Horace Wells Award in recognition of outstanding interest and achievement in the field of anesthesiology, by the Horace Wells Club of Connecticut, established 1895.

Maurice F. O'Connell has been named president of the medical-surgical staff at St. Francis Hospital. Dr. O'Connell succeeds Dr. D. Dillon Reidy.

Fairfield County

Saul H. Sherman, attending physician of the department of medicine at the Stamford Hospital was elected president of the medical staff at the recent annual meeting.

Middlesex County

Sal Prins was recently certified as a specialist by the American Board of Neurology and Psychiatry.

Henry A. Jolley has opened an office for the general practice of medicine in Middletown.

Christos Koutras who has been a resident at the Connecticut State Hospital began a rotating internship at the Middlesex Memorial Hospital.

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Book Reviews

OBSERVATIONS ON "DIRECT ANALYSIS" THE THERAPEUTIC TECHNIQUE OF DR. JOHN N. ROSEN. By Morris W. Brody, with Forewords by John N. Rosen and O. Spurgeon English. Vantage Press Inc., New York. 104 pp.

Reviewed by Louis H. Nahum

There are at least two reasons why this book is important. First it presents a method of treating psychoses especially schizophrenia. Such diseases have heretofore been inaccessible to any form of psychoanalysis. The second reason is even more important since while the method is an outgrowth of Freudian psychology it is a distinct break from the psychoanalytic technique, a radical departure which if thoroughly understood and properly employed might even breathe a fresh viewpoint into psychoanalytic practice itself. There is little doubt that psychoanalysis has great limitations, not in its theory which has enriched every field of human understanding, but in its practice. The interminable never ending excessively expensive practice of psychoanalysis has delegated its use to only a minute segment of the emotionally ill. Here it is destined to remain unless new methods by the use of drugs or group therapy will recover the method for the benefit of larger numbers of patients.

It must have been some such idea that motivated the Rockefeller Brothers Fund to set up an institute in Philadelphia for the study of Direct Analysis. In this book the first of several to come out of the study Dr. Brody attempts to describe Dr. Rosen at work not to evaluate the results which will be appraised in another book. Dr. Rosen treats his patients in front of a group of visitors and is aided by assistant therapists who themselves recovered from psychoses through Dr. Rosen's treatment. Apparently psychotics living in a dream world are not interested in the audience but they certainly are in the therapist. The method is complicated since the skill of the therapist is paramount. Dr. Rosen orders his patients to act properly much as a hypnotist does to his subject. He threatens, cajoles, wrestles with them, uses four letter words of the schizoid mind and relies heavily on the sense of guilt to make the patient change his actoins. He over and over again convinces them they are crazy and that being crazy is shameful. He insists he doesn't care what they think. It is their crazy actions that must be changed. He thinks that if they act sane then they will become so.

Dr. Brody reports the fascinating method in all its meanings and implications and if anyone wishes to gain a theoretical analysis of the technique used Dr. Brody has furnished them brilliantly. Dr. Brody himself is a training analyst and quite competent to interpret Dr. Rosen's method which he observed at first hand. However, it can never take the place of a direct observer in the treatment sessions. This is recognized by the increasing number of visitors that come to see and learn the technique.

It is clear that Dr. Rosen is not bound by orthodoxy of method. He shows great courage and conviction. The method makes excessive demands on the therapist, both physical and emotional. It has taken psychotherapy off the couch and into the laboratory of behavior. It is not really a revolution against the couch where neuroses are dealt with, but an extension of psychoanalysis to psychoses where treatment has been considered hopeless.

We still do not know the results. But one should bear in mind the limited objectives of the therapy. As in any branch of medicine when new knowledge is added it is important, even if only few are helped initially. If the psychoanalysts will consider the method in the nature of an experiment and objectively consider not only the results but the new approach there is hope that a breath of fresh air will blow to revitalize the discipline of psychoanalysis which has been static for a long time.

CLINICAL PROSTHETICS FOR PHYSICIANS AND THERAPISTS. By Doctors M. H. Anderson, C. O. Bechtol, and R. E. Sollars. Charles C. Thomas, Springfield, Illinois, 1959. 377 pp.

Reviewed by Denis S. O'Connor

Except for the professional man concerned with amputations or the physical therapist who is faced continuously with the problems of braces, the title of this book would engender no enthusiasm and yet it is probably the very people who would not give this book a second thought who could profit most by it and enjoy it thoroughly. It has something for every doctor who has any concern with loss of locomotor function—and who at some time has not—it is a veritable bible for the physical therapist, and some parts of it could be the textbook for the patient struggling to master the successful use of an assistive device.

Far from being a dry, uninteresting treatise on artificial limbs, it is a fascinating story of the incredible developments in that field arising out of and since the Second World War and it is written in clear, non-technical language even for the laity.

For the physician who should be familiar with the functioning of braces and prostheses, for the physical therapist who must instruct in their uses, for the patient who must use a device, this book is a necessity. For maximum value of the material in this book it should be taken apart and made into separate volumes for the physical therapist, for the medical-social worker and the patient.

The volume as at present constituted should be a working tool of every hospital, rehabilitation center, and every professional office where the results of trauma and disease on the extremities is a concern.

It could well be a textbook for the medical student who would be basically prepared in the technical aspect of braces and their uses before meeting the problems.

PSYCHOTHERAPY AND SOCIETY. By Wladimir G. Eliasberg, M.D., Philosophical Library, New York, 1959. $6.00.

Reviewed by Daniel Wilkes

The theme of Psychotherapy and Society by Dr. Wladimir G. Eliasberg is that the psychotherapist must not forget that his man-on-the-couch lives the rest of his day in a social setting. Dr. Eliasberg fills out some aspects of this theme with knowledge drawn from studies in other specialties as well as his own. He goes even further. In addition to learning from those whose business it is to study what makes health or breakdown in a man or group of men, says Dr. Eliasberg, the pschiatrist can also learn much of people's personal and group

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motivations from "the quacks and honest people, the clairvoyants, the advisers and advertisers . . . bank tellers with double existence and conscience, stick-up youths, mothers of kidnapped babies, habitual traffic offenders, and power-drunk statesmen." Thus, from the start Psychotherapy and Society's author has announced his book's departure from the ordinary psychiatric study.

It was one of Freud's basic premises that "the proper study of mankind is Man." Dr. Eliasberg's book presents the other side of the coin, that we must look to mankind for a knowledge of man.

The result is a book that collects under one cover thoughts on such subjects as the acute and chronic invalid, the influence of the climacteric on career motivation, the accident-produced neurosis, the ethics of the therapist, the history of psychotherapy from Plato's Charmides to those Freudians who must for some reason label themselves as "opponents of Freud." Throughout the book the relationship of psychotherapeutic knowledge to research in propaganda, whether in politics or in newspaper advertising, and to studies of industry, weaves in and out like the vine in an Oriental rug. The resulting span of ideas provides fresh insights and cannot help but broaden the range of the thinking of any reader, layman or therapist.

It is lamentable, however, that a book having so much to offer by way of new insights and references to a wide span of behavorial studies is so lacking in fluency as to make extremely difficult reading. Nevertheless, the diligent reader can find in Psychotherapy and Society such topics provocative of further thought as these: The amateur psychologists are on the upswing in the form of the family columnist; will this lead people who should properly seek psychotherapeutic help to turn to the Merlins of our day? . . . As a result of increasing malpractice recoveries, new ethical problems are posed for the doctor; should he perform radical surgery on emergency cases, or dare he release valuable information capable of leading to recriminations against him? . . . Even the impact of industrialization poses new problems; the economic theory of maximal yield for minimal expenditure and effort presupposes a job-motivated workman; where joy in activity is absent, a substitute in the form of values such as acquisition of money or of buying power must be made; and if private personal motives are insufficient, then will group motives replace them, as they appear to be doing more and more?

In addition to raising new problems, the book reminds the reader of knowledge from unusual sources available for the fresh thinking such problems require. For instance, those who recall Orson Welles' 1938 Invasion from Mars broadcast may be surprised to find that the less intelligent and less well-schooled listener was no less resistant to panic than the smarter educated man, and that resistance to Hitler's anti-Jewish propaganda was even higher among the plain people. Elsewhere, we are reminded that the Platonic and Kantan ideal of the isolated citizen dealing directly with his social obligations is being replaced by the ideal of the group-affiliate who has written his partisanship into his conscience in big bold letters. Again, the results point up conflicts calling for both psychotherapeutic and philosophical attention.

The author points out that propaganda is a vital factor in the commercial and political contacts of the man who may enter the office of a medical doctor or of a psychiatrist. He is exposed to verbal urgings of bigots, bigwigs and ballyhooers who expertly play on his anxieties to get him to buy a brand of hatred, a candidate or an underarm deodorant. Their power is such it has almost become a symbol of our times that man's sense of shame is centered on the perspiration under his arm. From these specialists, Dr. Eliasberg suggests, the psychotherapist can borrow both the fruits of their expertise and an awareness of his own patient's exposure to campaigns aimed at increasing the patient's insecurity and at patterning sources of his anxiety and of his security alike.

In a separate section, Psychotherapy and Society focuses on the "accident case" as a model of interaction between the injured man, his attorney, his psychiatrist or physician and the legislators who make laws to cover his situation. For instance, every lawyer and doctor has known examples of "litigation pains" which disappeared the day the indemnity check was received by the victim.

Unfortunately, the lawyer, too, may contribute to these auto-induced symptoms. The lawyer's function in an accident case is to get as much money as possible for his client Y—from which he exacts a proportionate fee. The greater Y's injury, the greater Y's monetary recovery; thus, ironically the worse his medical recovery, the better his dollar recovery. His lawyer will want him to see specialists, to take x-rays, and will elicit the location of every fiber with any trace of the accident. Y's lawyer's job is to build up the damages side of Y's case without asking whether Y's recovery would be hastened by less emphasis on his pains and positive orientation towards early return to work.

In this last regard, Dr. Eliasberg describes several cases in which he found that the patient's refusal to accept the doctor's orders to cease work forestalled for years the very crippling stages of chronic disease or the very premature demise against which the doctor warned him. As in many of the subjects covered by Psychotherapy and Society, the author is here content to point out that this situation exists and to point up a possible clash between psychotherapeutic knowledge and existing legal or medical practices.

These subjects come in under a scheme of organization that leaves much of the material diffuse and difficult to get at. The topical organization is sometimes misleading, and there are frequent points at which ideas of great originality and interest are raised and are regrettably not carried through. Thus, the gems that do occur may appear tangentially, and their full content may lie in the thoughts provoked in the mind of the reader.

While Dr. Eliasberg's survey aims at depicting only some areas in which to expand the psychotherapist's background knowledge, one major area is notably absent. This is the arena of Family Relations in which lawyer, philosopher, sociologist, medical doctor and psychiatrist share common concern.

Several new insights and new perspectives of old insights included in Psychotherapy and Society should provide much food for further thought. It is regrettable that the author did not make explicit his organizing premises, but the reader willing to supply the organizational schema through extra attentiveness will be rewarded by this bringing together of information on studies that have been done in a wide variety of subjects related to psychotherapeutic understanding, of the most successful of this planet's social creatures, Man.

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3,000 Patients Are Subjects In Clinical Testing Of Drugs

Some 3,000 patients in 150 cooperating hospitals are now serving as test cases in the nationwide hunt for chemical agents effective against cancer.

These clinical tests represent a crucial phase of the national cancer chemotherapy program. In them, after laboratory work is done, the experimental observer is once more the physician struggling to cure or relieve his patient. Here investigation blends with clinical practice.

When compounds show consistent activity against any of a range of tumors in mice, they go through further testing in higher animals and must be proved sufficiently nontoxic for human use. The few dozen compounds that, it is estimated, will emerge annually from the chemotherapy machinery are the materials for which the clinical tests are being set up.

The program is only now, after several years of intensive labor, getting into full swing. Some 70 compounds are available for testing in the cooperating hospitals, but most of these were known before. Only half a dozen new agents have come through.

In the clinical tests the experimental material is human. The investigator is a physician whose first responsibility is the care of his patient. These considerations impose two limits on the tests:

1. In general, the new drugs are tried only after every available clinical resource has been tried, without success.

2. Resources vary with the different sites and varieties of cancer. Accordingly, the clinical studies are organized separately for different cancers.

When the welfare of the patient requires it, he may be withdrawn from the trial.

Prostatic Cancer in Study

One of the cooperative studies is for therapy in advanced prostatic cancer, organized among 10 leading medical centers under the chairmanship of Dr. Herbert Brendler, of the Department of Urology, New York University-Bellevue Medical Center. Other cooperating centers are Memorial Center in New York, the University of Rochester, Columbia University, and Johns Hopkins University in the East; Northwestern University, the University of Iowa, and the University of Kansas in the Midwest; and on the West Coast the University of Oregon and the University of California at Los Angeles.

Experiments must be designed to determine whether one compound excels another by a margin as slight as 20 per cent.

Working with consulting biometricians Dr. Donald Mainland and Elisabeth Street, Dr. Brendler and his colleagues have calculated that by taking 100 cases for each compound they have at least an 80 per cent chance of catching a 20 per cent difference in effectiveness between a pair of compounds.

Each of the cooperating investigators is to follow the same procedures. They register all cases of prostatic cancer they see. They study those cases that meet the conditions agreed on:

—they must be cases of advanced prostatic cancer;

—they must be cases in which castration has already been done;

—they must be cases refractory to castration or in which relapse has occurred after castration;

—the diseases must not be so far advanced that no worthwhile result could conceivably be obtained by conventional methods of treatment;

—there must be no conditions that would preclude cooperation with physicians.

In contrast to some of the other cooperative studies, the study protocol stipulates that all of the participating centers test the same drugs simultaneously. In each trial one drug will be matched, by a double-blind procedure, either against a placebo or against some other compound.

In effect, each medical center must contribute at least 10 cases to the 100 needed for a given compound, or 20 to each pair of compounds. It is taken for granted that some hospitals will have heavier case loads than others. These, while waiting for others to catch up, can proceed with tests on their own, conceivably using drugs not officially incorporated in the program at all.

Cooperating Groups on Their Own

The materials in general will be made available through the national cancer chemotherapy program, but the investigators are not rigidly held to these. The cooperating groups are on their own. They are given support through the National Cancer Institute and they clear policy matters with the Cancer Chemotherapy National Service Center through its established committees. However, while they cooperate fully with the national chemotherapy program, they have not given up—nor have they been asked to give up—their status as independent investigators.

The complexity of the problems of organization and definition can be demonstrated by the time it took to get the prostatic cancer study under way. The participants come from a representative selection of leading medical centers. As Dr. Brendler observes, they also had the advantage in many cases of knowing each other and having worked together professionally before.

Nevertheless, their first discussions took place as far back as 1956. They had their first serious talks about statistics with Dr. Mainland in 1957. They began to work on their protocol in the spring of 1957, and by the end of the year had lined up a full roster of participants for the study.

The first full meeting of the group took place in New Orleans early in 1958, and there for four days the protocol was thoroughly discussed. By the summer of 1958 the first tentative clinical trials began. By the beginning of 1959, the preliminaries were out of the way and the study was in full motion.

Even then the investigators were several steps away from the trial of new agents. They had to arrive at a controlled evaluation of the effectiveness of stilbestrol—still, with castration, the treatment of choice for prostatic cancer.

Isolating the Effects

The testing of stilbestrol involved first a two-week period without medication—to eliminate confusing effects—to be followed by a four-week period on the hormone, while a control group is receiving a placebo. Further testing will also go in six-week cycles. Theoretically, it should be possible to evaluate eight pairs of compounds a year on this basis.

Dr. Brendler and his associates feel that the design of the study itself has led to scientific gains. They have crystallized thinking on such difficult problems as standardizing descriptions of the progress of the disease.

FIBRINOLYSIS II

Evaluation of Enzymatic Thrombolysis: Experiments with Plasmin Preparations in Arterial, Venous Thrombosis

LOUIS H. NAHUM
DANIEL KLINE
RONALD FISHBEIN

From the Department of Physiology
Yale University School of Medicine,
New Haven, Connecticut

THREE types of approach have been used in an attempt to effect thrombolysis in vivo.

A. Trypsin. This agent has received extensive trial but has already been abandoned. It caused thrombophlebitis locally and produced little thrombolysis in vivo. The considerable amount of proteolytic activity necessary to produce thrombolysis caused grave injury to the animal by producing widespread damage to blood and tissue proteins. It is apparent that the material was used with little understanding of the natural mechanism of thrombolysis in man.[1]

B. Activators.

1. Urokinase is an activator of plasminogen obtained from human urine. Recently purified, it is still not available in sufficient quantity for extensive clinical trial. In the very nature of the material, however, being a human product, it is probably less dangerous inherently than streptokinase.

2. Streptokinase (SK). This bacterial product has been used in highly purified form in clinical experiments in order to produce and maintain a prolonged thrombolytic state. When it is injected intravenously, quantities are necessary which, unless the most highly purified preparations are used, may cause many difficulties and some of the effects are often serious. As will be seen below, pyrogenicity and the effects upon the heart would preclude the use of the available commercial preparation in human beings. Even highly purified SK is antigenic since this is a characteristic of the SK molecule. In addition to the antibodies encountered in many patients as a result of previous infections, the resistance to SK increases greatly with each administration. The difficulties in producing highly purified SK make it improbable that this agent will be available for widespread clinical use in the foreseeable future.

3. Lipopolysaccharides of bacterial origin have been shown to induce fibrinolytic activity when administered intravenously (Eichenberger), and this effect persists even though the febrile reaction is blocked by antipyretics. von Kaulla[3] believes the fibrinolytic response is due to release of a tissue activator. He also showed, however, that tolerance quickly develops to repeated injections and the "rebound effect" leading to thrombosis may follow unless this secondary event is blocked by intravenous heparin. It is now recognized that the same rebound effect follows the use of other fibrinolytic agents.[4] Anticoagulants, therefore are necessary to prevent recurrence of thrombi after thrombolysis.

4. Plasminogen activator. This activator forms when SK is added to human plasminogen preparation. The action of SK itself depends on the intermediate formation of this activator.[5] Using either crude mixtures of SK and plasminogen[6] or a purified material obtained by alcohol fractionation of such a crude mixture,[7] these preparations are being tested in humans. All such mixtures contain plasminogen, SK, plasminogen activator and plasmin. Throughout this paper, the term 'plasmin" refers to this mixture.

C. Plasmin. Sherry believes that plasmin by itself in the absence of an activator will not be an active therapeutic agent. Plasmin in the blood is bound by antiplasmin and even if it were transferred by adsorption onto the surface of a clot, its thrombolytic effect would be too slow to prevent extension and organization of a clot. He has marshalled much evidence from in vitro and in vivo studies to support this viewpoint.[8] According to Sherry, to effect rapid thrombolysis, the plasminogen throughout the fibrin clot must be rapidly activated. This is presumably not effected at a usefully rapid rate by plasmin. Actase (ortho) is a plasmin preparation now available commercially.

Reports of the systemic effects of "plasmin" preparations in animals are scant.[6,7] In the following experiments on dogs, observations are presented on the effects of streptokinase alone and of "plasmin" on both arterial and venous thrombi. Plasminogen itself is inactive and non-toxic when injected intravenously. Therefore, it is necessary to determine what effect SK itself may have upon the animal as well as the various "plasmins" produced by mixing SK with plasminogen.

The Effect of Intravenous Injection of Partially Purified SK (Varidase, Lederle) on the Dog*

A dog anesthetized with 40 mg. per Kg. of nembutal intraperitoneally was given 40,000 SK units/Kg. intravenously. The SK was first incubated at pH 7.4 for 10 minutes in a 37° water bath. This was then added to 500 ml. of 0.9 per cent saline solution which was allowed to drip into a vein slowly. Fig. (1A) shows the electrocardiogram before infusion and (1B) 1½ hours after infusion. The animal sank into vascular shock and died. It can be seen that striking changes took place in all the T waves but a most significant finding was the development of a broad inverted U wave in the left precordial lead.

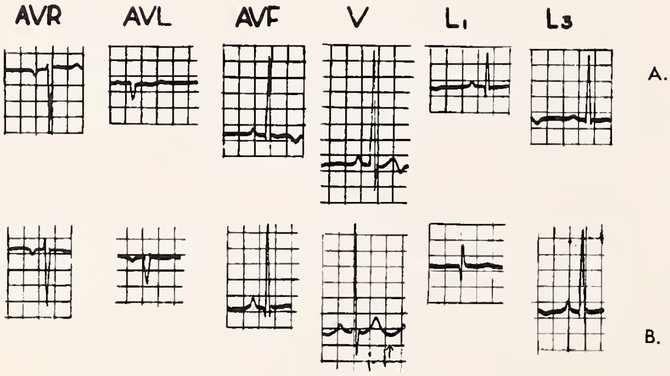

FIGURE 1

Electrocardiographic changes following the intravenous administration of 40,000 units of streptokinase per kilogram of body weight, in the dog. A. Control record before streptokinase administration. B. 1½ hours after the onset of the infusion; half of the calculated dose had been infused. Note the striking change in the T wave and the development of a sharply inverted U wave (arrow) in the precordial lead (V).

The Effect of Intravenous SK Plus Plasminogen ("Plasmin" I)

It was seen that SK by itself was toxic and caused serious myocardial injury. Since Plasmin is a preparation obtained by activating plasminogen with SK, it was obvious that any enzyme that contained quantities of free SK could be injurious to the organism. Two mg/Kg. of unpurified preparation of "plasmin" must have had undesirable quantities of SK because its injection in dogs produced pyrexia, vasoconstriction and injury to the heart evidenced by the development of bundle branch block (see Table 1). This latter effect probably was associated with constricting effects upon the coronary arteries also (Fig. 2, A, B, C.). In addition hyperplasminemia also occurred because the blood re-

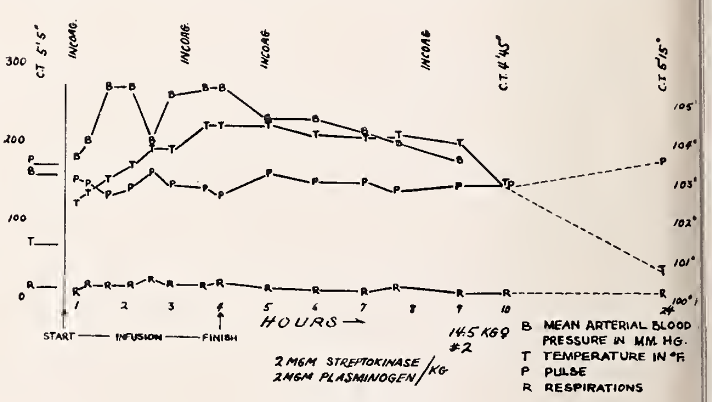

FIGURE 2A

The effect of slow intravenous infusion in a dog of a Plasmin I preparation containing 5,000 units of SK per mg. of plasminogen per Kg. The evolution of the mean arterial blood pressure, temperature, pulse and respiration. Clotting time (C.T.) and the state of blood coagulability is indicated above.

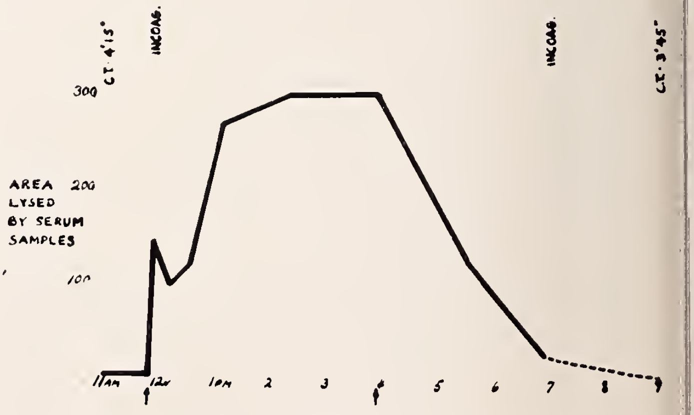

FIGURE 2B

The effect of Plasmin I upon the serum fibrinolytic activity. Arrows represent start and completion of the intravenous infusion, clotting times (C.T.) and the state of the blood coagulability is indicated above.

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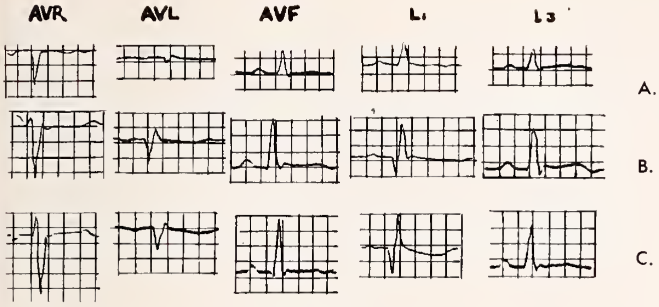

Figure 2C

Electrocardiographic response to the intravenous administration in a dog of a 10,000 unit SK per one mg. Plasminogen per Kg. A. Control before enzyme administration. B. Two hours after the onset of the infusion. Note increase in intraventricular conduction by .05 seconds. Q wave has appeared in L_1. C. Twenty-four hours after termination of infusion Q L_1 is persistent so also is the increased QRS.

mained incoagulable for as long as seven hours. However, the blood possessed strong fibrinolytic activity upon bovine clots in vitro. Two problems remained (a) how to reduce the toxic effects caused by the excess of SK in the enzyme mixture and (b) whether such new material would be thrombolytic in the presence of experimentally produced arterial and venous thrombi.

Arterial Thrombi: obstruction of the femoral artery of four dogs was produced by the following method. With the animal under nembutal, a branch of the femoral artery was cannulated with a polyethylene tube. Blood was allowed to flow into the tube and clot. It was then forced back into the femoral artery under pressure. The obstruction of the artery by the clot was determined by the disappearance of the pulse in the limb. It was then confirmed by arteriography, Fig. 3A and 3B. At this point 2 mg/Kg. of plasmin in 500 ml. of five per cent glucose was administered. Fig. 3C shows the arteriogram of the same limb as is shown by Fig. 3B 10 hours later showing a disappearance of the arterial obstruction. At this time the pulses had also returned to the limb.

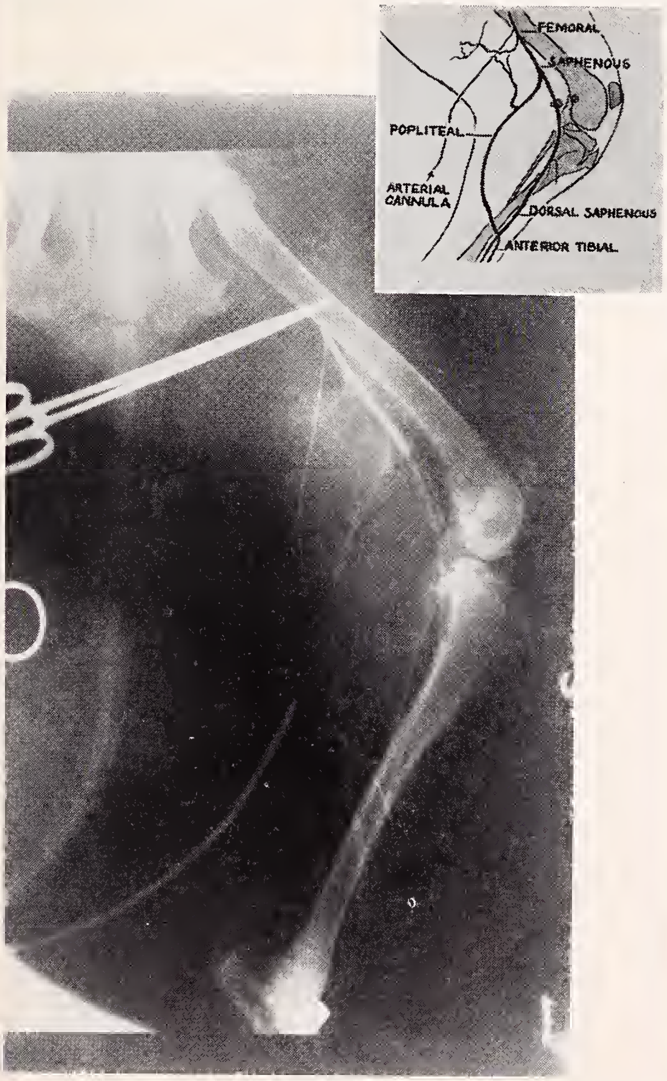

Figure 3A

Normal arterial pattern in the hind limb of a dog, visualized with radio-opaque medium.

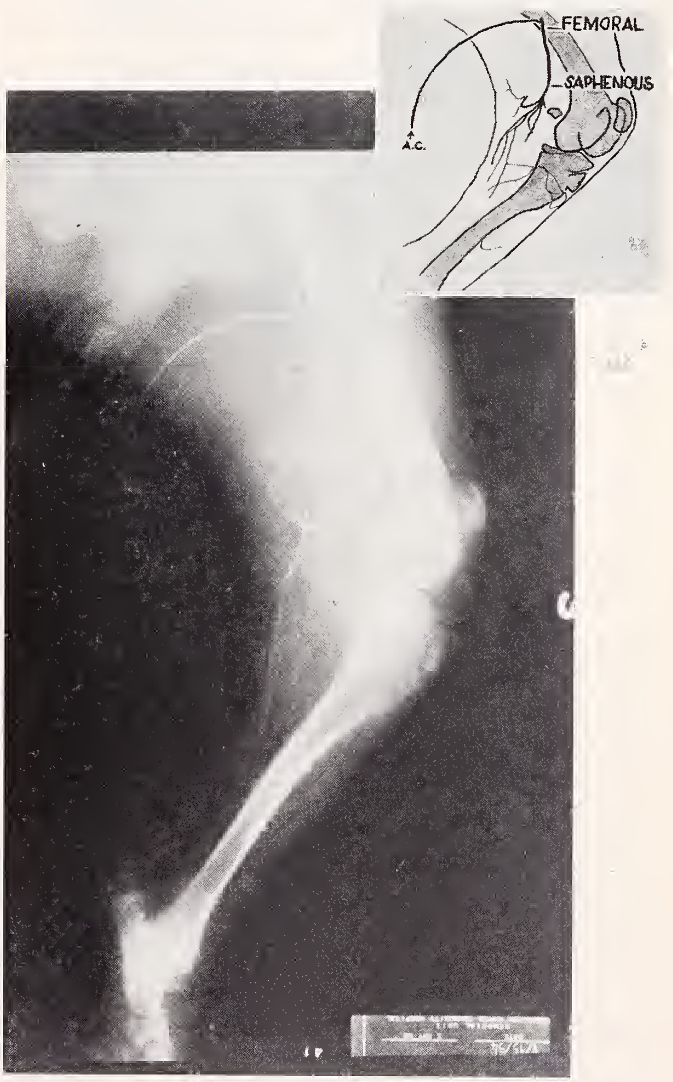

Figure 3B

Obstruction of the popliteal and dorsal saphenous arteries by an experimentally produced embolus.

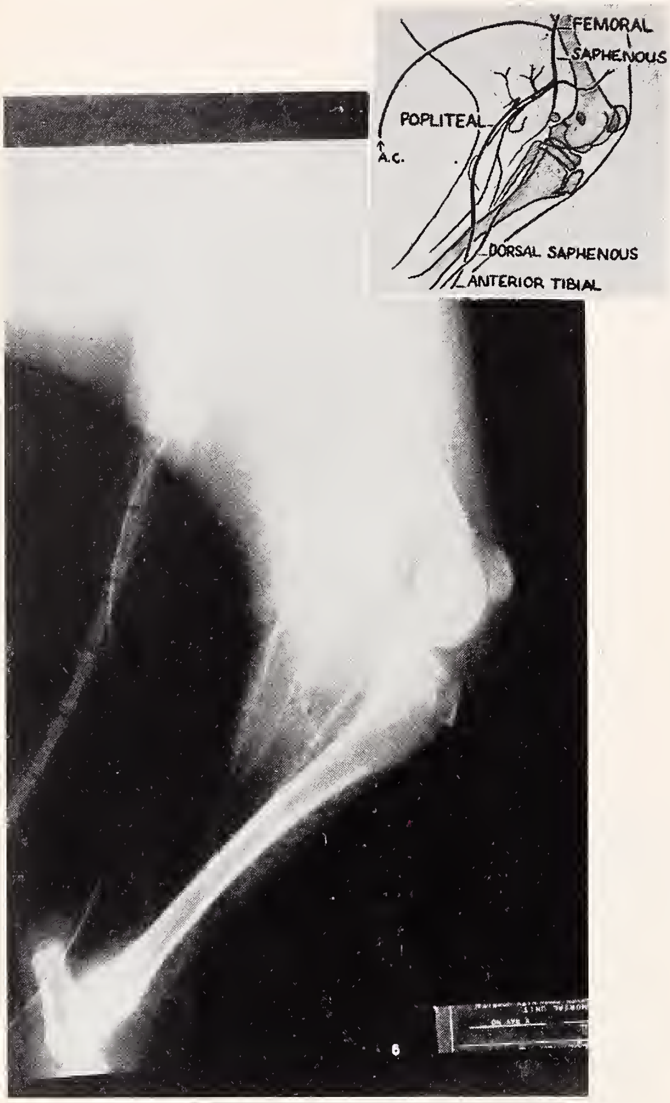

Figure 3C

Same limb as that seen in Figures 4A and 4B, 12 hours after Plasmin one administration. Note the return of circulation through the previously obstructed vessels.

Partially Purified "Plasmin" (Plasmin II)

Much of the SK in the plasminogen-SK mixture used to produce plasmin was eliminated by Fishman and Kline by a process of alcohol fractionation at low temperature.[9] The resulting enzyme preparation proved to be stable and was studied for its fibrinolytic effect on experimentally produced thrombi in the femoral vein of the dog.

Venous Thrombosis: Nine dogs were anesthetized with 40 mg. per Kg. of nembutal intraperitoneally. Temperature, pulse, respiration, clotting time, serum fibrinolytic activity measured on fibrin plates, mean arterial blood pressure (measured by means of femoral artery cannulation) and electrocardiograms were first obtained. These determinations were repeated at approximately hourly intervals throughout the course of the experiment. Venous thrombi were produced as follows: a 4-5 cm. segment of the femoral vein was isolated by clamps, the blood in the segment was aspirated and 0.5 cc. sodium morrhuate instilled for one hour. After this the morrhuate was withdrawn and the distal clamp removed. The proximal clamp was now replaced by a loosely tied silk ligature and the wound closed. Twenty-four hours later the wound was opened and the ligature removed. The leg was found to be swollen, ecchymotic, edematous and the vein was clotted as far down as it could be palpated (Fig. 4A). At this time 0.5 mg. per Kg. of the enzyme dissolved in approximately 12 ml. of five per cent glucose in water was injected into the opposite femoral vein over a period of two minutes.

Results

Within three to four hours the thrombus was dissolved as shown in Fig. 4B. Fig. 5 shows the systemic effects after the injection of the partially purified "plasmin" in a typical experiment. It can be seen that no electrocardiographic or systemic effects followed the thrombolysis with the exception of a slight rise in temperature of 1° F. reaching its maximum in four hours and then gradually subsiding. It should be noted that the blood remained incoagulable for four hours during the period of thrombolysis and gradually, in less than 10 hours, the clotting time returned to normal. What is especially important is that the clot dissolved from each end and that no emboli were found in the pulmonary system after a careful dissection of the pulmonary arterial vasculature.

In order to determine the effect of an excessive dose of purified "plasmin" upon the vital signs of an animal four dogs were given two mg. of the enzyme i.v. per Kg. of body weight. This was four to eight times the effective thrombolytic dose. Arterial pressure, measured by means of femoral artery cannulation, and electrocardiograms were first obtained. These observations were repeated at approximately hourly intervals throughout the course of the experiment. Fig. 6 shows a typical experiment. The significant features are an increase in pulse rate, a drop in temperatures of 2° F. and late ST and T changes. There was an elevation of ST and a negative T in L3 AVF and U together with a negative U in V. Although the mean ar-

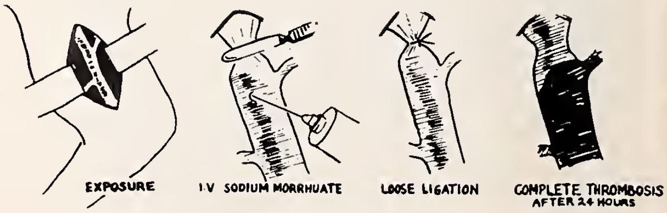

Figure 4A

A method for the production of a venous thrombus. See text for details.

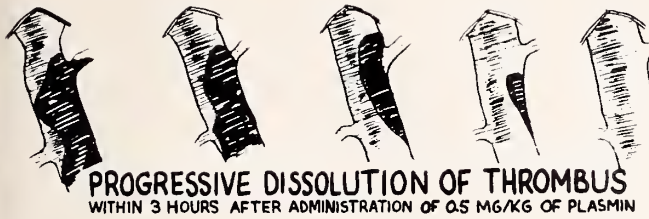
PROGRESSIVE DISSOLUTION OF THROMBUS
WITHIN 3 HOURS AFTER ADMINISTRATION OF 0.5 MG/KG OF PLASMIN

Figure 4B

terial pressure remained stationary, it is apparent that the tachycardia, hypothermia and altered electrocardiogram indicates that the larger dose produced widespread systemic effects on the temperature regulating mechanism as well as the heart. It should be noted that the plasminogen itself had been tested on other animals without any effect whatsoever being observed.

Autopsy of the animals revealed no gross hemorrhages in any of the organs. Slight oozing in the wound occurred which could be controlled by pressure bandage.

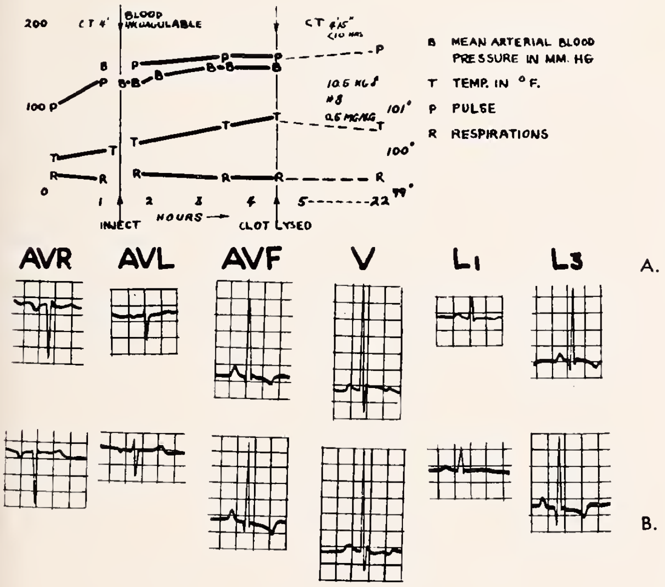

Figure 5

Typical recording for animals undergoing clot lysis after the administration of 0.5 milligram of Plasmin II per kilogram of body weight. All of the vital signs are stable with the exception of a slight (1° F.) elevation of the temperature. A. Control ECG taken before administering the enzyme. B. Twenty-four hours after injection; no significant changes can be noted. Clotting times (C.T.) and the state of the blood coagulability is indicated above.

Discussion

These studies reveal that partially purified SK itself is toxic when administered intravenously in dogs, causing widespread changes in the cardiovascular system and speedy death when given in sufficient amounts. A very specific effect upon the electrocardiogram was revealed in which the T waves were altered and a broad negative U wave was the most striking feature.

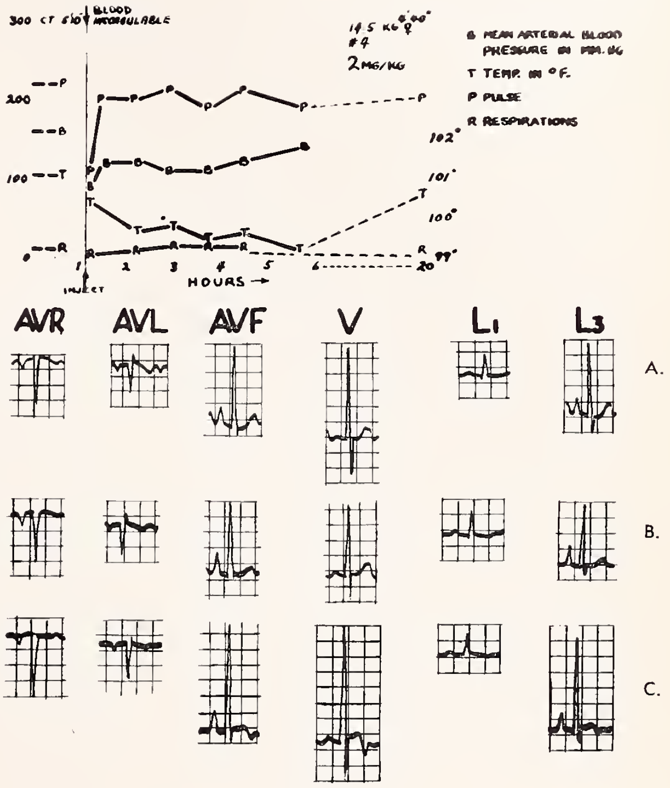

Figure 6

The effect of the intravenous administration of 2.0 milligrams of Plasmin II per kilogram of body weight upon the temperature, pulse, respiration, mean arterial blood pressure, and electrocardiogram. A. Control ECG taken before administering the enzyme. B. Five hours after injection; no significant changes. C. Twenty-four hours after injection; T wave changes in all of the leads. Clotting times (C.T.) and the state of the blood coagulability is indicated above.

When partially purified plasmin was employed against both arterial and venous thrombi, thrombolysis was effected rapidly in either the arterial or venous site. The dissolution was complete within three to four hours and at an effective thrombolytic level of 0.5 mg. per Kg. no electrocardiographic or systemic changes were encountered, except mild hyperpyrexia and temporary blood incoagulability.

One cause of the fever is probably the split products of the thrombus. When the enzyme was given to one animal without a clot no pyrogenicity was encountered. This suggests that the split products of the fibrin clot were pyrogenic. However, the venous clots were very extensive involving a large segment of the femoral vein. Even so, the fever response to thrombolysis was relatively minor being no more than one degree F. It is doubtful if such a large clot would be encountered in clinical practice. However, in any case, regardless of the extent of the clot destined for dissolution, one would expect only a minor febrile reaction from such a source if the enzyme were employed in clinical cases. This does not imply that there may not be certain individuals who will display intolerance to the material and therefore one should be prepared to deal with a pyrogenic reaction in case of its occurrence. Reactions of humans to SK are generally much stronger than those of other species. von Kaulla[3] has used antipyretics successfully to prevent fever following administration of bacterial lipopolysaccharides intravenously. The same treatment could be employed if a pyrogenic reaction occurred with the enzyme.

There is another important difference between these experiments on dogs and the utilization of this enzyme as a clinical agent. The animals were anesthetized and consequently a pyrogenic response could have been partially or completely suppressed, whereas in a patient the enzyme will probably be given without an anesthetic. One might therefore be more likely to encounter pyrogenicity in man.[10] The individual variability in human sensitivity to SK should also be borne in mind particularly as to the amount of anti-streptolysin present in human blood. For these reasons the use of the enzyme as a clinical agent must be approached with caution. Certainly because of the effects upon the heart encountered in these experiments it would be unjust to administer such an enzyme preparation in cases suffering from coronary heart disease whether or not a thrombosis is present outside the coronary system and especially if the thrombosis is in a coronary artery.

In all the experiments there was an immediate loss of blood coagulability which persisted for many hours. It is probable that an amount of plasmin was administered which overwhelmed the antiplasmin present in the circulating blood and what we really produced was a state of hyperplasminemia with resulting destruction of the circulating fibrinogen. The duration of incoagulability varied from 10 hours when the smaller dose of 0.5 mg. per Kg. were used to 20 hours. When the larger amount of two mg. per Kg. were used, the state of incoagulable blood, however, produced no gross hemorrhages in any of the organs; mild oozing occurred from the surgical wound which could be controlled by pressure bandages. As a result the animals lost little blood. If the vascular system is intact, as was present in these animals hemorrhages in organs were not encountered.

Possible Action of the Mixture—

The enzyme injected contains plasminogen, plasmin, plasminogen activator and some SK. Plasminogen itself is known not to be thrombolytic unless activated. The plasmin formed certainly could be thrombolytic but even in the hyperplasminemic state its action would be as slow as Sherry has pointed out even if the plasmin itself acted as a plasminogen activator, in this way causing thrombolysis. The other possibility is the action of SK and the plasminogen activator which converted the plasminogen in the thrombus to plasmin thereby causing rapid thrombolysis. In man this would be a most unpredictable event because of the frequency with which anti-streptolysin is present in varying amounts. If enough anti-streptolysin is present in an individual it would neutralize the SK thereby abolishing its activating effect. For these reasons the "plasmin" used in these experiments and probably those tried clinically would be expected to vary in action from one individual to another and preliminary titration of the blood must be performed in each instance.[4]

The question remains whether thrombolysis could be effected by doses smaller than 0.5 mg. per Kg. of the enzyme and whether a small enough dose would suffice that would not at the same time produce hyperplasminemia and incoagulable blood. A few experiments with 0.25 mg. per Kg. also produced effective thrombolysis and the incoagulability of the blood was of shorter duration (Table 1). Smaller quantities of the enzyme mixture would certainly reduce any possible effect of SK itself. Since plasmin when injected becomes bound to anti-plasmin, the effect of the intravenous injection of the enzyme free of activator could only become manifest if enough plasmin were given to produce hyperplasminemia. This would involve the widespread destruction of fibrinogen and other plasma proteins.

It appears at this time that the solution of the therapeutic problem of thrombolysis will come, not from the direction of hyperplasminemia but rather from the utilization of activators which act directly upon the fibrin clot and at the same time spare the other blood proteins. Such a material would be expected to leave the circulating fibrinogen and other blood proteins unharmed, avoid incoagulability of the blood, and still lead to thrombus dissolution. Urokinase, highly purified SK and some lipopolysaccharides are activators which are presently under active study as thrombolytic agents.[3] If purification and production problems can be overcome, the human product, urokinase, appears the most likely candidate.

It should be pointed out that a thrombus generally rests upon a damaged endothelium. The dissolution of the clot would leave a denuded area upon which another clot would quickly re-form unless anti-coagulants were employed at the same time as thrombolysis was attempted. Such a practice would seem to be an indispensable accompaniment to therapeutic thrombolysis and should be continued long enough after thrombolysis has been achieved to allow endothelialization to be completed. Generally this requires 10-14 days.

In Clinical Medicine a decision to employ a thrombolytic agent must take into consideration (a) The location of the thrombus. (b) The probable number of days it is in existence and (c) The presence or absence of coronary artery sclerosis.

The location of the thrombus is of the utmost importance. If it is in the venous system it is necessary to take into account the ease with which such cases respond to anti-coagulant therapy and weigh this against the possible dangers of producing coronary artery constriction, pyrogenicity and incoagulable blood. One exception is central vein thrombosis in which a patient is immediately threatened with blindness. If pulmonary infarction has already occurred it is well to remember that the lungs are particularly rich in activators and by this natural endowment are capable of effecting thrombolysis locally provided the size of the clot is not too great. If it is too great, sudden death removes freedom of action anyhow.

If the clot is in an arterial vessel, usually infarction has already taken place by the time one has established the diagnosis and the only expectation of benefit by thrombolysis would be found in reducing the size of the peri-infarction zone whose viability is not altogether destroyed though impaired by a reduced blood supply. This may often be a most desirable therapeutic aim to achieve. However, the danger inherent in a temporary state of afibrinogemia produced by hyperplasminemia is sufficient to give pause to the use of materials containing free plasmin in such cases, since it is probable that bleeding would take place in the region of the infarct during the period of blood incoagulability. Physicians will be freed from this danger when a successful activator becomes available. Then only the clot will be acted upon and the peri-infarction zone can be preserved without hemorrhage in its vicinity. Generally a clot in a coronary artery causing infarction will be exposed to the blood only on the proximal side and consequently subject to lysis in a much longer period of time than if it were acted upon at each end as it probably is in a vein. It is obvious that if a collateral circulation in an artery allows blood to bathe each end of a thrombus, the probability of infarction would be greatly reduced. In such a situation thrombolysis would be most desirable since it would restore the original lumen and help to avoid arterial insufficiency. However, the diagnosis of arterial thrombosis without infarction is often extremely difficult. It may be expected that measures will be designed to accurately determine the occurrence of arterial thrombosis without infarction especially in the brain, heart, and kidney, once it becomes apparent that thrombolytic agents can eliminate this cause of arterial insufficiency.

(b) The age of the thrombus is also an important consideration that must be taken into account. After a few days several events occur to prevent successful thrombolysis. One is the endothelialization which occurs rapidly and covers the clot surface actually excluding it from contact with the blood stream. The other is the invasion of the thrombus by fibroblasts which are not susceptible to lysis by plasmin. For this reason alone an effort should be made to establish with reasonable probability the number of days the thrombus has been in existence in order to appraise the advantage to be derived from thrombolytic procedures.

(c) Of especial importance is the necessity of recognizing the existence of coronary atherosclerosis. These experiments show the possibility of injury to the heart by streptokinase and "plasmin" in certain doses. This could well be the result of coronary artery constriction. In coronary atherosclerosis further coronary constriction could lead to a disastrous outcome.[11]

It is clear that thrombolysis can be an important arm in therapeutics and when capable of being achieved without untoward consequences may be a "great leap forward" in preservation of life and prevention of invalidism.

Summary

1. The factors which are of importance to the clinician in the enzymatic treatment of thrombosis are discussed and the current status of thrombolytic agents is reviewed.

2. Intravenous streptokinase (Varidase) in a dog produced vascular collapse and death within 90 minutes. A striking electrocardiographic change was seen especially in the U wave of the left precordial lead.

3. A mixture of streptokinase and plasminogen (Plasmin 1) given intravenously to a dog produced toxic effects characterized by pyrexia, hypertension and intraventricular block in the electrocardiogram. Incoagulability of the blood occurred promptly and persisted for over 20 hours. The material was highly thrombolytic in arterial thrombosis.

4. A more purified enzyme preparation, Plasmin II produced very few systemic signs except moderate pyrexia. It was highly thrombolytic against venous thrombi. In doses of 0.5 mg. and 0.25 mg. per Kg. the electrocardiogram remained unchanged but blood incoagulability was produced and subsided after 10-20 hours.

5. It is pointed out that the enzyme preparations employed in this study are probably not the

answer to the clinical need for a satisfactory thrombolytic agent, and that some activator not yet sufficiently purified or available in suitable quantities is needed that would cause thrombolysis without other systemic effects and without injury to the circulating fibrinogen.

TABLE I*

	PLASMIN I		PLASMIN II		
	5,000 UNITS SK PER KG.	10,000 UNITS SK PER KG.	2 MG/KG.	1 MG/KG.	0.5 MG/KG.
TEMP.	Increased 0.4-3.6° F., and returned to normal within 6-8 hours after the infusion.		Decreased 0.8-2.0° F. for 5-6 hours. Normal after 24 hours.	No changes observed.	Elevation occurred only in animals undergoing lysis of thrombi. Approx. 1° F.
PULSE	Varied inversely with blood pressure changes.		Decreased 50-100. Recovery in 15 min. to 2 hours.	No changes observed.	No changes observed.
RESP.	Changes observed were negligible.		Changes in respiratory rate were negligible.		
MEAN ARTER. PRESS.	Increased 5-110 mm. Hg and returned to normal within 3-5 hours after completion of the infusion.		Decreased 30-100 mm. Hg. Normal within 2 hours.	No significant changes were observed in the mean arterial blood pressure.	
ECG	No changes observed.	Intraventricular conduction defects; widening of QRS by 0.05 seconds.	Non-specific T wave changes noted after 24 hours.	In one animal, No changes ST displacement observed and T wave changes.	
IN VITRO FIB'LYTIC ACTIVITY	Remained high during slow intravenous drip, then declined over several hours.		Rose to a high level after single intravenous injection; gradually declined over several hours.		
IN VIVO FIB'LYTIC ACTIVITY	A 2 cc. arterial embolus, 4-5 hours old, was lysed in approximately 12 hours.		The 1.0 and 2.0 mgm. dosages were not tested.		A thrombus of the deep femoral system lysed in 3-4 hours.
CLOT TIME	Incoagulability occurred almost immediately after the onset of the injection and persisted for 8-10 hours before returning to normal.				
WOUND OOZE	Oozing was minimal and stopped when the clotting time returned to normal. It was easily controlled by moderate direct pressure.				

* Summary of the effects of plasmin preparations:
Plasmin I was a mixture of Streptokinase (SK) with Plasminogen.
One mixture contained 5,000 units SK per Kg. and another 10,000 units SK per Kg.
Plasmin II—Partially purified Plasmin administered in dosage of 2, 1 and 0.5 mg/Kg.

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The Pelvic Pain Syndrome In Women

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. . . An understanding of the basic character of the disorder and some of its etiological factors has been emerging during the last two decades – enabling the physician to regard this as a more definite entity –

The problem of the patient with chronic pelvic pain without readily detectable cause is a frequent one both for the gynecologist and the general physician. It is a problem of considerable importance, partly because of the occasionally disabling character of the condition, and partly because of the difficulties met in its successful treatment. On the one hand, the patient's symptoms may be underestimated by her family and her physician alike and her problems left unsolved, perhaps for years; while on the other, she may be subjected to ill-chosen early surgery which will prematurely terminate her reproductive life.

No generally satisfactory explanation of the nature of the disturbance has been arrived at and accordingly no name has been universally adopted. The condition is, therefore, still largely a "clinical" entity and is best understood by a description of the symptoms.

Symptomatology

The outstanding characteristic of this disorder is the pain and discomfort which it produces. This indeed appears in a considerable variety of forms, although one is commonly found in almost all cases. This characteristic discomfort is a dull pain, almost constantly present, but varying greatly from day to day, localized in one or both lower quandrants of the abdomen or in the suprapubic region. It is only rarely acute in onset, although episodes of rather severe pain are sometimes superimposed on the more constant daily discomfort. It is indeed common in the histories of these patients to hear that although the present pain has lasted for several weeks or months, there was prior to this a free period of several years, and before that a somewhat similar episode of several weeks of discomfort which the patient may by now nearly have forgotten. The variability of this lower abdominal pain is usually not ascribable by the patient to any particular circumstance. Occasionally it may be noted that the discomfort seems to be worse at the approximate time of ovulation or prior to the menstrual periods. On the other hand, it may be asserted that the pain is worse after long periods of standing, following marital intercourse, or perhaps just during days of special fatigue.

Besides the pain described as most characteristic, the patient also sometimes offers other types of symptoms. The menstrual periods are quite commonly painful. Careful questioning, however, reveals that this dysmenorrhea is not of the "primary" types present since puberty and characterized by co-menstrual cramps, but is rather a discomfort of relatively recent origin, following marriage or parturition, and tends to be rather an exaggeration of the intermittently present pelvic discomfort from which the patient constantly suffers than a pain sharply associated with the menstrual periods. Many of these patients also complain of low back pain, usually worse after standing and as the menstrual period is approaching. Some have definite discomfort on defecation, perhaps a reflection of the tenderness of uterosacral ligaments, a point to be referred to later under the description of physical signs. Finally, the majority of all of these patients suffer from dyspareunia, a symptom which in itself should lead to the consideration of the diagnosis of this condition.

A number of other symptoms are also occasionally reported by these patients. Urinary frequency or dysuria of a relatively mild degree is often reported, and when this is present urine analysis will usually show no significant increase in white blood cells, and a cystocopic examination will reveal little except perhaps mild dilatation of the vessels about the trigone. There are no characteristic menstrual disorders aside from the secondary dysmenorrhea, although in rather more cases than seems to be explicable on the basis of coincidence, there is noted a curious decrease in the duration of the menstrual flow and blood loss. Another interesting minor feature is the rather frequent report of slight intermenstrual bleeding or premenstrual straining, this being perhaps due to engorgement of the endometrial vessels. Leukorrhea is fairly common and is of a mucous character, indicating its origin from the endocervix.

A clinical feature which perhaps casts some light on the nature and origin of this disorder is the presence of breast symptoms which often start at almost the same time as the pelvic discomfort. These symptoms consist of breast tenderness and an increase to abnormal proportions of the commonly observed premenstrual breast swelling. The rapidity with which change in breast size may occur, that is to say the increase in size at perhaps a week before the period and the much more rapid disappearance of the swelling with the onset of the period, make it appear that the alteration can have only a vascular explanation. In other words, it must be due either to a hyperemia or to an increase in the amount of interstitial fluid. On account of the simultaneous appearance of breast and pelvic symptoms, it may perhaps be inferred that the pelvic symptoms, at least to a large extent, are vascular in origin. This point may be of use in the explanation to the patient of the relatively simple reason for what she regards as her severe pelvic discomfort. Most patients will readily accept the statement of the physician that no major lesion, neither tumor nor inflammation, is responsible for her premenstrual breast symptoms. She can rather readily visualize an analogous process occurring in the uterus being productive of symptoms, not dissimilar from those which she has noted as occurring in the breast during the premenstrual days.

Physical Findings

The examination of the abdomen is apt to reveal slight to moderate tenderness, on one or both sides of the abdomen, just above the inguinal ligaments. Although some observers have stressed the fact that this tenderness is superficial and is actually a hyperesthesia of the abdominal wall, it is the experience of this observer that the tenderness is more obvious on deep pressure and is roughly a measure of the tenderness that is later noted during the bimanual examination.

A single remaining feature of the abdominal examination is the presence of one or more scars of a previous abdominal operation in a substantial fraction of these cases. At this point the history will frequently have revealed a previous appendectomy, perhaps erroneously carried out for pelvic rather than appendiceal pain, or a round ligament suspension, or finally, operations on a "cystic ovary," all performed in a vain effort to clear up the discomfort.

The bimanual examination discloses the only truly characteristic, and indeed almost pathognomonic sign in this disorder. This is the often quite extraordinary tenderness notable in the parametria and particularly in the uterosacral ligaments. This is a sign reported by many observers during the hundred years or more that clinicians have been puzzling over this clinical problem.

The uterosacral tenderness may be elicited by simple palpation of the tissues lateral to and posterior to the cervix. It is more clearly defined when, during bimanual examination, the cervix is gently lifted anteriorly by the examining fingers placed in the posterior fornix. This maneuver apparently stretches the uterosacral ligaments and is accompanied by a spasm of pain, evident to the examiner if he is observing the patient's face during the course of the maneuver. It is a tenderness in this region, which is apparently responsible for the back pain, the dyspareunia, and probably for the pain on defecation which some of these patients note. It is responsible also for the erroneous diagnosis of "coccyoodynia" occasionally, and formerly more frequently, made. The tenderness in the uterosacral ligaments is believed by some observers to be associated with a "thickening" or fibrosis of the uterosacral ligaments. A certain mystery with regard to this observation still exists and some writers have alleged that the supposed "thickening" is really a "spasm" which disappears when the patient is placed under general anesthetic. It appears, however, that in some cases the induration of one or both uterosacral ligaments is real and indeed when, under certain circumstances, the induration is unilateral and associated with unilateral pain, the physical findings are quite convincing.

In addition to the parametrial tenderness, there is also at times noted some tenderness in the ovaries and not infrequently some enlargement. This finding has also tended to lead to great confusion and the diagnosis of "cystic ovary" is often made in patients with pelvic pain. Two possibilities exist. One is that enlargement and tenderness of the ovary, perhaps in some way due to a general pelvic congestion, is a frequent associated finding in these cases. The other possibility is that the examiner mistakes the tenderness in the uterine ligament for tenderness in the ovary and indeed it is difficult to carry out ovarian palpation without eliciting tenderness in the uterine supports. Probably each explanation is at times correct, but in any case the examining physician should beware of the possibility of overlapping or conflicting diagnoses.

Neuropsychiatric Aspects

The typical patient with this disorder is usually a young woman in her late twenties or early thirties. She is usually although not always married and has usually had one or more children. The symptoms are apt to date from the time of marriage or from the birth of a child and on careful questioning are almost always found to be of much longer duration than is first indicated in the history.

Besides the more definitely gynecologic complaints, the patient presents a variety of what might be termed psychosomatic symptoms. Most prominent among these are a constant fatigue, but she may note also difficulty in sleeping, headaches, palpitation and some gastrointestinal complaints. It appears from the review of some hundreds of records that mucous or spastic "colitis" is much commoner than functional disorders of the upper intestinal tract. Relative frigidity is the rule, and is of great interest when psychiatric possibilities are considered from greater depth.

The psychiatric aspects of the disorder are receiving more and more attention, although clinical articles written even in the last century have stressed the emotional problems. Recent articles by Duncan and Taylor, by Cohen and his associates, by Benson and his associates, and an article now in press by Gidro-Frank, Gordon and Taylor have discussed in some detail special personalities of patients susceptible to this disorder, and possible psychogenic precipitating factors.

Differential Diagnosis

The problem of the differential diagnosis of pelvic pain in young women, without any immediate and obvious organic explanation, is a difficult one and susceptible to many errors. If one may consider that causes outside of the reproductive tract (i.e. disorders of bladder and colon) have been excluded, there remain a number of possibilities.

1. *Chronic Pelvic Inflammatory Disease.* In some cases of gonorrheal salpingo-oophoritis, a history of an initial, acute febrile attack may be largely lacking, and in that case the chronic pain, perhaps with minor exacerbations, may closely simulate that of the condition under discussion. Similarly, tuberculosis of the tubes and pelvic peritoneum will give a somewhat similar history. However, pelvic inflammatory disease is apparently in practice not likely to be a source of confusion.

The history of the initial, acute febrile attack is usually present. The social status of the patient is apt, although not necessarily, to be different. The erythrocyte sedimentation rate is nearly always elevated, even in the recurrent attacks of salpingitis, and is rarely much elevated in the cases of "functional" pelvic pain. Finally, the findings on pelvic examination are quite different, the tenderness being located in one case in the adnexa and in the other in the uterosacral and broad ligaments.

2. *The "Cystic Ovary."* Reference has already been made to the fact that it is often extremely difficult definitely to localize pelvic tenderness, either in the uterine ligaments or in the ovaries. Furthermore, there appears to be some tendency for tenderness in the uterosacral ligaments and in the ovaries to occur simultaneously, perhaps as parts of the general "pelvic congestion."

The decision as to the diagnosis between these two entities is indeed not perhaps essential. Each seems to have important etiological factors in common and each, in the beginning at least, should have the same type of general expectant therapy. Of course, with this statement it is assumed that in the presence of an enlarged ovary the possibility of some specific functional condition such as the Stein-Leventhal syndrome or some type of neoplasm of the ovary must be borne in mind.

3. *Endometriosis.* The symptoms of a typical case of endometriosis are characterized by lower abdominal pain, having its onset in a woman in her twenties or thirties, and with a characteristic exacerbation of this pain during and shortly before the menstrual periods. The history then may be precisely that of the case with "functional pelvic pain," although there is perhaps a slight tendency to see the cases of endometriosis develop in patients without previous pregnancies. Physical examination may also be of little assistance in the differential diagnosis. In the typical case of endometriosis the ovaries are, it is true, somewhat enlarged and tender, and there may be probable nodules in the cul-de-sac. On the other hand, in many cases this nodularity is not detectable and the examiner notes only tenderness in the uterosacral ligaments, posterior to the cervix, quite indistinguishable from the tenderness noted in the cases of idiopathic pelvic pain.

The differential diagnosis between these conditions may then be essentially impossible. Undoubtedly, many cases operated upon for endometriosis with essentially negative findings are due to this error. An avoidance of this mistake is probably to be found in the evident fact that cases with a presumptive diagnosis of endometriosis, but with the absence of really confirmatory physical findings, need not be operated upon in haste but should be kept under observation and treated as though the pain were in fact "idiopathic." In this respect, it would be interesting to find out whether the cases of unexplained pelvic pain may also be benefited by prolonged courses of the "synthetic progesterones," as has been reported as successful in the treatment of some cases of endometriosis.

The Nomenclature for Idiopathic Pelvic Pain

The review of the long history of clinical articles on this entity attests the seriousness with which clinicians past and present regarded this problem. The repeated changes in the names applied indicate their confusion as well as their determination to set up hypotheses of explanation.

The term "parametritis chronica posterior" was one of the terms first applied. It was evidently adopted because of the impression fixed in the observer's mind of the tenderness and induration in the uterosacral ligaments in the posterior part of the pelvis. The designation was popular during the decades after the first brilliant accomplishments of the science of bacteriology, at a time when it was evidently hoped that most of the ills to which flesh is heir would be explained on a bacteriological basis. These early observers believed that the condition was a chronic inflammation of the parametrial tissues, at first perhaps subacute and associated with a hyperemia, and later developing into a fibrosis which resulted in a contraction of fibers and a drawing of the uterus physically backward in the pelvis. The term "posterior parametritis" still remains as a diagnosis, as justifiable as "chronic mastitis" and is fully understood by physicians having had their medical training in Germany and central Europe.

At a little later date, when interest turned to the possibility of a spasm of the uterosacral ligaments, the term "parametritis spastica" was also employed. This view was also chiefly a German one and appears to have had less acceptance than many of the others.

In the French school, the notion that this was a disorder of the pelvic sympathetic was early entertained and the term "plexalgie hypogastrique" was employed. This term seemed to help to draw in association with the pelvic symptoms the general aspects of nervous lability. For this purpose another term, still more picturesque to American ears, "grande nevralgie pelvienne" was also used. A somewhat similar concept is implied by a term used sometimes in Britain, namely, "broad ligament neuritis."

The term "pelvic congestion" or "chronic pelvic congestion" appeared early in the English literature and consistently in French writings. This has certain justification in some of the physical findings and will be referred to later.

Finally, in consonance with modern ideas of psychosomatic medicine, a concept of the pelvic disorder as a general disturbance of the autonomic nervous system has yielded such designations as "the pelvic sympathetic" or "autonomic syndrome." These latter terms are so general as to be almost completely secure from attack, but so nonspecific as to perhaps help us rather little in characterizing the condition.

Notes on the Nature of the Disorder

There remains the obvious possibility that under the heading of "functional" or "idiopathic" pelvic pain there are actually two, or indeed more disorders. Since up to the present time the condition under discussion is characterized principally by its clinical symptoms, there is surely room for the possibility that at least two basic conditions are at the root of the clinical manifestations.

After giving this clinical problem consideration for many years, and at the risk of being rather too hypothetical, the writer would like to suggest that there are indeed two entities or at least two phases to this condition. In one the basic disorder is perhaps a "hyperesthesia" of sensory nerves, and the other a "vascular congestion."

An analogy for this subdivision exists in the case of functional disorders of the breast where clinical observation is somewhat simpler. In some cases the complaint is simply of breast tenderness, without change in breast size. In these cases, the tenderness may be bilateral, but is somewhat more apt to be one-sided and, indeed, sometimes located to a single quandrant or lobe. The tenderness in these cases is less apt to be restricted to the premenstrual portion of the cycle, and may even be reported after the menopause. The characteristics of "engorgement" or "congestion" are absent and the designation is properly "mastalgia" or "mastodynia." In other and more common cases, the breast pain is associated with obvious breast enlargement and the symptoms more or less restricted to the premenstrual portion of the cycle with immediate and often dramatic relief of symptoms as soon as menstruation starts. Here the condition is pretty clearly one of vascular change, the pain seemingly due to the actual engorgement with interstitial fluid or intravascular blood.

In the pelvis there is evidence also that these two types exist. In one type, the vagina and cervix show no signs of hyperemia and there is little evidence of hypersecretion from the unhypertrophied cervix. The tenderness seems very definitely located in the uterosacral ligaments. Such cases have been observed definitely to occur in the menopause, although in such instances the history of onset is apt to date back to the early years. These cases offer a rather striking contrast to those in which there is evident congestion of the vaginal mucous membrane, a hypersecretion from an edematous cervix and enlarged uterus and ovaries. In the second type of case, if laparotomy should be carried out, the uterus is frequently found characteristically large, soft, and congested; and there may be an impressive accumulation of fluid in the cul-de-sac. Between the two extremes described, there seemed to be many transitional forms and no doubt in many instances of idiopathic pain the processes of hyperesthesia and congestion are both operative.

Causative Factors

It seems improper to speak of a cause of "idiopathic pelvic pain," because it seems evident that a number of causes may contribute and indeed a number must be present in order that symptoms will occur. At the same time, a consideration of these factors is very significant, because it may be possible clinically to manipulate some of these and so develop some sort of a rationale of treatment.

1. *Hormonal Factors.* It has been suggested that an excess of, or possibly a hypersensitiveness to, one of the hormones of the ovary was responsible for this pelvic pain. This has been suggested particularly in premenstrual tension, a condition associated with breast pain, and in some sense perhaps allied to the present condition. There is, however, no positive evidence of any variation in estrogen blood levels or urinary excretion in these cases, and indeed the endometria which have been studied have been found for the most part consistent with that expected for the phase of the menstrual cycle. Abnormalities in function of one of the ovarian hormones are still quite hypothetical, although in passing it might be noted that the use of androgens appears sometimes to produce some symptomatic benefits.

That the presence of actively functioning ovary is essential for the development of this disorder is to state something quite different. At the menopause, or if the ovaries are removed, there is usually a disappearance of breast engorgement and the accompanying pelvic symptoms and occasionally the expectancy of this result may be made use of in therapy. This observation does not, however, prove that there had previously been an ovarian excess, but only that with the atrophy of the pelvic organs these were no longer responsive to some other more specific factor.

2. *Mechanical Factors.* There seems little doubt that the presence of a major degree of uterine prolapse is accompanied by alterations in the pelvic circulation, and indeed by a "stasis" or "congestion" of the pelvic organs. The veins of the pelvis are exceptionally large, complex, believed to be largely valveless, and anastomosing so frequently as to produce what has been described as the "pelvic lake" of blood in the broad ligaments. The loss of fascial supports associated with injuries to the pelvic floor at the time of parturition, accompanied by a loss of support to this massive vasculature can undoubtedly lead to disturbances in venous return from the pelvis. The so-called "pelvic varicocele" is a visual manifestation of this disorder.

Since the majority of patients with "chronic pelvic congestion" do not exhibit obvious degrees of loss in the mechanics of pelvic support, this cannot be the universal and common cause. However, it remains probable that the loss of pelvic supports following parturition is one of the real contributory factors in the development of chronic pelvic congestion.

3. *Inflammatory Factors.* Although the concept of a "chronic parametritis" must be largely discarded, there remains the possibility that in some cases inflammatory factors are the major cause or at least a contributory one to the presence of chronic pelvic pain. Reference by some authors has been made to the frequency of a history of induced abortion among these patients, and it has been alleged that the chronic pelvic pain is due to a chronic thrombophlebitis of the pelvic veins, resulting from these procedures. That microorganisms can persist in the production of a real chronic infectious parametritis seems unlikely, but it is possible that damage to the veins consequent to infected abortions might be productive of permanent circulatory disorder in the pelvic system. Another possible source of chronic infection is the infected cervix which was formerly at least believed capable of producing chronic pelvic pain through a "chronic lymphangitis" having its source in the infected endocervix.

In the many attempts by clinicians to relate emotional to somatic factors in this disorder, there is much difference of opinion as to which is cause and which is effect. At one point it seemed evident that the pelvic condition was considered primary and the patient's general emotional disturbances, stemming from either the pelvic lesion or perhaps from the disturbances of sexual function which themselves were considered primary. More recently, the stronger trend is to the belief that these are emotionally disturbed patients and the gynecological complaints the somatic manifestations of the underlying psychologic or psychiatric problems.

There has, however, been some apparent difference of opinion as to the exact relationships. From the writings of Cohen and his group, it appears that he regards the pelvic symptoms as examples of "conversion hysteria" and that the disorder is largely in the psychiatric field. The gynecologist, however, with his perception of the striking localized tenderness and in the cases of pronounced congestion and evidences of a vascular disorder, is inclined to think that if the psychiatric disorder is primary that it is effective by producing physiologic disorder which in turn is the cause of subjective symptoms.

From the several studies cited, however, there appears to be no doubt whatsoever that many of these patients, if not all, have pronounced psychiatric problems, often definite types of personality disorder and sometimes specific psychiatric precipitating causes.

Therapy of Functional Pelvic Pain

In the presence of the patient with pelvic pain, severe enough to require relief, the physician faces a difficult dilemma. On the one hand, since the symptoms seem related, anatomically at least, to the uterus there is the temptation to settle the problem quickly and neatly by the recommendation of a hysterectomy. On the other hand, there is the possibility in view of the increasing evidence of a psychiatric basis for the disorder that the patient should be referred for extensive psychoanalysis. There may be some question as to which is the more major undertaking for the patient.

a. *General Therapy.* Recognizing the seriousness of either step, that of major surgery or that of major psychiatry, the thoughtful physician will undoubtedly begin by temporizing and will observe his patient for some weeks or months, resorting only to simple methods of therapy.

The first effort in all of these patients should be to give reassurance. The real character of the pain, occurring in an already nervous and apprehensive subject often produces great anxiety which exacerbates the symptoms. A break in this vicious circle will result in a cure in a substantial proportion of these patients. In these days, the primary fear is of cancer and the second one is of infection and perhaps infertility. The concept of pain without organic lesion is somewhat difficult to give to a patient, but an analogy with the premenstrual breast pain, if this is present, or even with symptoms of headaches will be helpful in convincing a patient that discomfort and organic lesions are not synonymous. It can be assured that the condition probably does not produce infertility and indeed that pregnancy is apt to produce at least temporary relief.

The physical burden and perhaps the nervous tensions under which the patient is living should be tactfully and patiently explored. Physical rest, even a period of vacation from home responsibilities, will often produce immediate improvement and, although return of pain is common, the patient will be encouraged by past experience to believe that improvement with further rest is again to be expected. Specific tensions between husband and wife, between patient and employer, or inlaws should also be studied, and the patient herself asked to observe whether she thinks there is any relationship between situations of personal tension and the periods of increased physical symptoms. Finally, questions of marital relationships involving fear of pregnancy, unsatisfactory contraceptive techniques, or unequal sexual requirements may be gone into and possible solutions pointed out.

The treatment of minor gynecologic lesions may also be considered. Under this heading there is primarily the treatment of endocervicitis and erosion, a therapy for which great claims have been made. If improvement occurs, it may be due to a clearing up of an infection with an accompanying "chronic parametritis" or possibly, as has been claimed, for the effect of silver nitrate for the actual cautery on nerve endings in the cervix. Possibly the treatment of a retroversion or partial prolapse with a pessary may serve to elucidate the basis of certain symptoms.

There is no doubt that such measures, or possibly the passage of time with the unconscious adaptation of the patient to her surroundings, results in the alleviation of symptoms in many cases. In spite of the tendency for periods of recrudescence of symptoms, many women undoubtedly go through their entire reproductive lives with some degree of "chronic pelvic congestion" and its accompanying discomforts.

For a few patients, however, the symptoms are refractory to such simple treatment, and at the same time are intolerable. Both physician and patient know that something definite must be done and that the dilemma of major surgery or major psychiatry once again arises.

Psychiatric consultation should certainly be advised before surgery is undertaken. The probability of success and the duration of psychotherapy required has not been tested yet in a sufficient number of cases to know what may be expected of it. Some psychiatrists are hesitant about undertaking the treatment of these cases, and after several examinations will decide that psychotherapy does not hold much promise. In other cases, when both psychiatrist and patient are willing, the advice to accept such a course of treatments should be followed. If the psychiatrist considers treatment inadvisable or the patient declines it, then surgery must still be considered.

Surgery then seems permissible if certain rather definite prerequisites have been fulfilled. These are as follows:

1. The symptoms should be severe.
2. The symptoms should have been persistent for months and preferably for years and unresponsive to treatment.
3. The patient should be sterile or have had the number of children which she desires.
4. Psychiatric consultation should have been held and operative therapy concurred in.

If these prerequisites were followed, there would be few "unnecessary" hysterectomies for this disorder.

When surgery is resorted to, there are several possible procedures which may be undertaken:

1. *Round ligament suspension.* This has been a much abused and is currently a much maligned operation. At one time of course it was the panacea for all backache, and since it was employed illogically so often there was perhaps little wonder that it became universally condemned. There remains a possibility that the young woman with retroversion, perhaps with a little decensus, with low abdominal and with low back pain, who still desires some more children, is not a proper subject for this ancient procedure.

2. *Conservative operations on the ovaries.* Since the syndrome of pelvic pain seems frequently to be associated with tender slightly enlarged ovaries, there is little wonder that many patients are treated by unilateral or partial oophorectomy. There is no doubt, from our own records, this operation is frequently a failure, since the pain persists, either in the remaining ovary or in the uterosacral ligaments. There remains the possibility that the operation is correct in patients with pain on one side and enlargement of only a single ovary. Particularly if such patients are subject to acute attacks of one-sided abdominal pain, it is perhaps permissible that an operation be carried out for the partial or complete removal of one ovary.

3. *Operations on the pelvic autonomic nervous system.* Somewhat experimental efforts have been made for the treatment of pelvic pain by the section of what appears to be significant segments of the pelvic autonomic nervous system. The operation of presacral neurectomy, that employed so often successfully for primary dysmenorrhea, has been reported as successful in this condition also, but the results may be questioned since the distribution of nerves affected seems inadequate to cover all the areas of the pelvis from which symptoms may emanate. Section of the uterosacral ligaments, containing the inferior hypogastric plexuses, has been advocated for many years. Since much of the tenderness seems to be located in this region there seems to be a better reason to suppose that this would be successful. On the other hand, this operation, at least when done abdominally, is comparable to the operation of hysterectomy itself and there seem to be few occasions in which any operation should be done in women and the uterus not also be removed.

4. *Hysterectomy.* In our own experience, with a small number of hysterectomies performed for this condition over a 15 year period, it does appear that when the cases are correctly selected, this operation is the most beneficial of any of the surgical procedures. It should be stressed again that the operation is indicated only after years of observation and in women who desire no further children. The operation, if performed, should unquestionably be a total and not a supravaginal hysterectomy. Many cases have been recorded in which after supravaginal hysterectomy there remains a rather typical tenderness of the cervical stump. It appears to us that this tenderness is also located in the uterosacral ligaments and that the benefit of the total hysterectomy, aside from the elimination of those symptoms associated only with the menstrual period, is due simply to the section of the uterosacral ligaments.

Conclusion

1. The syndrome of "idiopathic pelvic pain" is a common one, severely affecting the well-being of many women patients, and tending to be badly treated on account of its somewhat indefinite character.

2. An understanding of the basic character of the disorder and some of its etiological factors has been emerging during the last two decades, enabling the physician to regard this as a more definite entity.

3. Finally, although a specific for treatment is unavailable, the factors in the situation are gradually assuming definite values so that a rationale of treatment can now be more nearly formulated.

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The Endocrine Response To Trauma In Man

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. . . An awareness of the recognized hormone interrelations can assist during the post-traumatic period —

Trauma to the human imposes metabolic alterations which are protectively stabilized by a series of neurohumoral responses. It makes little difference whether the trauma be burn, crushing of tissue or an elective surgical procedure. The interactions of endocrine glands after trauma are beginning now to be recognized. Animal experimentation has been valuable as an adjunct to endocrine investigations but such studies do not necessarily parallel human reactions. Too often critical differences have been noted when man and animal are compared. Nonetheless, it is possible to suggest a pattern of human endocrine response to trauma. The present report provides a brief summary of knowledge in this area and is not intended as a detailed analysis. The reader is encouraged to consult the references cited in the bibliography for details of the processes involved.

Generalities

At this time probably all of the physical structures of the human body have been identified insofar as normal location and microscopic composition are concerned. There remains, however, much to be discovered about the function of many of them, particularly during and following trauma. It is reasonable to assume that the response to trauma involves to some extent every cell in the body. Specific endocrine glands play key roles in the response pattern.[12,19] Others have been implicated broadly but details are lacking. It can be stated with assurance that the hypothalamus, pituitary (anterior and posterior), adrenal (cortex and medulla) and probably the thyroid are active during the period of injury and recovery. Other glands such as the pancreas and the reproductive organs may also play a part.

The alterations in the metabolism and function of cells after a traumatic insult are essential for the maintenance of life in the stress situation. The changes may be brief and the closest observation is required to detect many of them. As recovery progresses further adjustments in cellular metabolism are made which return the physiological equilibrium of the organism toward the pre-trauma level. Ultimately restoration to normal is achieved, convalescence is completed, and the organism again is prepared to meet further trauma. The exact time span requisite to the resumption of a "normal state" is unknown.

Specificities

Stress leads to immediate cerebral cortical excitation via neuroendocrine pathways and in turn the hypothalamus is activated by neural connections from the cortex. Hypothalamic influences then are manifested via neurohumoral pathways to activate autonomic responses and the pituitary.[17] It has been demonstrated satisfactorily that separate areas of the hypothalamus exist which when stimulated cause the pituitary to secrete adrenocorticotrophic hormone (ACTH) and thyrotrophic hormone (TSH) differentially.[11] The target organs react accordingly and hormonal blood levels thus achieved probably act as a servomechanism to modify the rate of further secretion.[2] It is probable that other hypothalamic areas may take part in this cycle.

Verification of the part played by the adrenocortex in the reaction to trauma has been amply demonstrated by experiment and clinical observation.[19] Following operative trauma, 17-hydroxycorticoids ("stress steroids") are increased in the blood as are also steroid degradation products in the urine. The secretion of 17-ketosteroids ("sex steroids") formerly was believed to be little affected by stress but recent partition studies of this material in the urine reveal that after surgical trauma the "sex" fraction (androsterone and etiocholanolone) is decreased in favor of cortisone-like material.[15]

Another important role is probably played by the thyroid. A post-operative increase in the activity of the thyroid gland (increased glandular uptake of radioactive iodine),[6, 9] increased circulating thyroid hormone (increased protein bound radioactive iodine), [5, 7] and increased utilization of thyroid hormone (increased utilization of radioactive thyroxine)[10] have been demonstrated. Some studies suggest a reciprocal interaction of the thyroid and the adrenocortex after trauma.[5] Early after operative stress an increasing serum level of isotopically labeled thyroid hormone is paralleled by an increasing hydroxycorticoid level. With a continuing rise in the plasma steroids, thyroid hormone falls toward pre-trauma levels. Subsequently the plasma steroid level returns to the pre-operative range.

The patterns of thyroid-adrenocortical response may vary quantitatively.[9] A "normal pattern" may arise from an initial thyroid activation closely followed by an increase in adrenocortical function. Nevertheless, neither endocrine may react, or one and not the other, under a variety of abnormal influences. Not the least of these influences may be long standing or chronic disease with metabolic imbalance exemplified by advanced pulmonary tuberculosis or malignancy. In addition, an acute single traumatic episode apparently modifies the response of the organism. A subsequent traumatic experience within a brief, but still undetermined, period of time may occur during a refractory state with an inability of the organism to respond to the second insult in the customary fashion. The response mechanism covers a wide range of reaction so that a less-than-normal response to trauma may still be adequate to maintain life.

In addition to this complex thyroid-adrenocortical interaction is the relationship between adrenomedullary pressor amines and adrenocortical products. Circulating adrenomedullary hormones are increased after trauma. Accumulated evidence supports the thesis that the adrenomedulla and adrenocortex function together. The steroids supplement the ability of the body tissues to respond to epinephrine.[20]

Inadvisable attempts at therapy during the post-trauma period may be of vital significance insofar as water and electrolytes are concerned.[13, 14] It appears that hypothalamic stimulation after trauma causes a posterior pituitary as well as anterior pituitary response. Antidiuretic substances, although not as yet specifically identified, are probably released in increased quantities violating the usual controlling mechanism and resulting in water retention. This troublesome complication occurs if water is supplied too rapidly or in amounts exceeding the metabolic requirements of the organism. If the latter occurs, serum dilution follows with a subsequent decreased serum sodium concentration. This change in serum sodium coupled with a possible change in intravascular volume may act as a stimulus to increase aldosterone production. Renal conservation of sodium follows. The role of aldosterone in the post-stress readjustment period is unclear especially insofar as the receptor, integrative and effector mechanisms are concerned.

The pancreas may also be involved in the endocrine response to trauma. Evaluation of blood sugar levels after trauma to determine possible alterations in insulin secretion has not been helpful. Absorption studies with orally administered radioactive iodine labeled triolein (a triglyceride which requires the pancreatic enzyme, lipase, for degradation into absorbable oleic acid) reveal a significant decrease in plasma uptake of this substance after non-gastrointestinal operative trauma when compared to the pre-trauma uptake level.[4] Similarly labeled oleic acid is absorbed to the same extent after trauma as before. The phenomenon may be related to altered production of pancreatic enzymes or possibly altered availability of bile, the substrate for the enzyme activity.

The etiology of the metabolic nitrogen deficit noted after trauma has never been completely ascertained. There is little doubt that adrenocortical hormones cause a catabolic action on protein metabolism.[19] Animal experiments have demonstrated that adrenocortical hormones may be antagonistic to the nitrogen excretion accompanying excessive thyroid hormone activity.[18] Clinical studies, however, have resulted in a diversity of opinion regarding this mechanism in man.[3, 8] It has also been suggested that a large portion of the negative nitrogen balance seen after stress may be the result of inadequate intake of nitrogen and calories.[16] An adequate supply of these elements significantly reverses the trend of nitrogen wastage.

Although many questions regarding the human response to trauma remain unanswered, much progress has been made toward the ultimate truth. There is little doubt that the puzzle will be completed during the forseeable future.

Summary

The endocrine response to trauma is complex and incompletely understood at this time. An awareness of the recognized hormone interrelations, however, can assist the physician in his management of patients during the post-traumatic period. Especially

important is recognition of hypofunction of thyroid and adrenal glands which unless corrected can lead to gross metabolic disturbances. Judicious fluid and electrolyte administration enables regulatory mechanisms to operate at a more nearly normal level. Much of the knowledge of the post-stress state is fragmentary without proven clinical value, but in the not too distant future the picture undoubtedly will be complete. Patient care will then be more physiological than at present.

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The Differential Diagnosis OF SCROTAL MASSES

is often a difficult process but is extremely important –

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THE common occurrence, wide variety, and difficulty in diagnosis of masses arising in the scrotum causes some embarrassment to nearly all physicians in every branch of medicine and surgery. Among all the areas and organs of the human body, none are so readily accessible for examination as the scrotum and its contents. With a careful history and meticulous examination, it should always be possible to arrive at a reasonable working diagnosis. Unfortunately, this is not always the case.

An inadequate history, lack of interest, hasty and incomplete examination, and, perhaps, a Puritan unwillingness on the part of the physician to examine the afflicted area thoroughly, often mitigate against accurate appraisal and diagnosis of masses of the scrotum. The serious nature of many scrotal masses renders such inaccuracy unpardonable.

Diagnosis of scrotal masses depends upon a basic understanding of the anatomy of the region, and of the common pathologic conditions which can occur. Anatomic arrangements may be readily recalled by reference to any standard text book of anatomy. Simplification of the problem of diagnosis may be obtained through various methods of classifying scrotal masses, and such cataloging may be done on the basis of the anatomic origin of the mass, on the basis of benign or malignant origin of the mass, on the basis of those conditions best treated medically and those treated surgically, or—perhaps most simple of all—classification can be made on an etiologic basis. Such a classification of scrotal masses is presented in Table I.

Common Scrotal Masses

Lesions of the scrotal skin account for a large percentage of scrotal masses. The skin of the scrotum is subject to a number of infectious and inflammatory conditions including scabies, pediculosis, prurigo, eczema, erysipelas, psoriasis, and secondary syphilitic lesions. Chronic irritation and leathery thickening of the scrotal skin has been noted as a result of irritation due to trichomonas vaginalis occurring in the sexual partner. Furunculosis of the scrotal skin is common, usually due to poor hygiene. Sebaceous cysts, both infected and uninfected, are frequently seen, and frank abscesses of the scrotal skin may follow, usually due to Staphylococcus aureus.

Gangrene of the scrotal wall, though a relative rarity, is reported due to infection with Clostridium welchii and E. Coli. In advanced instances, the entire scrotum and its contents may slough. Similarly, urinary extravasation may also cause gangrene.

Parasitic and mycotic diseases of the scrotum are particularly common in tropical regions. The fungi which affect the scrotum and its contents include blastomycosis and actinomycosis. These diseases are almost universally associated with systemic fungal disease, and there is frequently other associated genito-urinary fungal disease, such as chronic prostatitis and seminal vesiculitis. Elephantiasis of the scrotum is an interesting urologic oddity and a favorite photographic subject for the text books. It is, of course, due to lymphatic obstruction by filiariae.

Tumors of the scrotal skin include angioma, fibroma, lipoma, myxoma, myoma, and squamous

TABLE I

ETIOLOGICAL CLASSIFICATION OF SCROTAL MASSES

- I. Mechanical Origin
  - A. Extrascrotal
    - Hernia
  - B. Intrascrotal
    - Varicocele
    - Torsion
- II. Infectious Origin
  - A. Scrotal skin
    - Eczema
    - Prurigo
    - Scabies
    - Trichomonas vaginalis
    - Pediculosis
    - Gangrene (Clostridium welchii and streptococcus)
  - B. Scrotum and Contents
    - Acute epididymitis
    - Epididymo-orchitis
    - Orchitis
    - Echinococcus cysts
    - Elephantiasis (filarial)
    - Mycoses
- III. Neoplastic Lesions
  - A. Benign
    - Lipoma
    - Fibroma
    - Condylomata acuminata
    - Verrucae
    - Adenomatoid tumors
  - B. Malignant
    - Sarcoma
    - Epidermoid malignancies (squamous and basal cell)
    - Adenocarcinoma of epididymis
    - Testicular tumors
      - Seminoma
      - Teratoma
      - Teratocarcinoma
      - Embryonal carcinoma
      - Choriocarcinoma
      - Interstitial cell tumors
- IV. Cystic Processes
  - A. Scrotal skin
    - Sebaceous cysts
  - B. Scrotal contents
    - Hydrocele (cord or tunics)
    - Hematocele
    - Spermatocele (spermatic cysts)
    - Cysts of hydatid or Morgagni
- V. Traumatic Cause
  - Hematoma
  - Edema
  - Hemorrhage
  - Hematocele
  - Torsion
  - Hernia
- VI. Systemic Cause
  - Ectopic tissue (spleen, adrenal)
  - Endarteritis of syphilis
  - Thromboangiitis obliterans
  - Tuberculosis
  - Syphilitic gumma

cell and basal cell carcinoma ("chimney sweep's disease" and "mule spinners' disease"). Ectopic nodules of both spleen and adrenal gland have been found in the scrotal skin. Veruccae (common warts) often occur on the scrotum, as do condylomata acuminata (venereal warts).

Torsion of the spermatic cord with subsequent congestion and gangrene of the testis and epididymis constitutes a surgical emergency and is commonly seen among boys and young men. Torsion is probably the most common cause of a rapidly developing scrotal mass in a prepubertal individual; acute infections, such as bacterial epididymitis, are quite uncommon in such individuals, and the rapid onset of a painful scrotal mass should be presumed to be the result of torsion until proven otherwise. Torsion may be brought about by violent exercise, but has been reported as occurring during sleep. It is the result of an anatomic defect in the fixation of the scrotal contents within the sac, and must be treated surgically and expeditiously.

Acute bacterial epididymo-orchitis is undoubtedly the most common cause of sudden and painful scrotal swelling. Epididymitis rarely occurs without an inflammatory reaction of some degree in the associated testis. Acute epididymo-orchitis generally follows demonstrable urinary tract infection, most often prostatitis, seminal vesiculitis, cystitis, urethritis, or pyelonephritis. The epididymis may be indurated locally or throughout, and the process may progress to stony hard induration of the entire epididymis and testis. Resolution of the process requires a relatively long period of time, usually several weeks, even after the signs and symptoms of chills, fever, local tenderness, and rubor have subsided. Acute epididymoorchitis most often affects young and middle-aged men.

Hydrocele and hematocele, both of the tunica vaginalis and of the cord, are quite common. Hematocele generally follows trauma with extravasation of blood into the tunica vaginalis. Liquefication subsequently occurs, producing a non-painful mass which does not transilluminate well. Hydrocele results from excessive accumulation of normal serous fluid within the tunica due to impaired resorption through the regional lymphatics and vascular bed. Such impaired resorption is frequently seen in the newborn, probably as a result of trauma to the cord during descent of the testis. Such hydrocele of the newborn usually resolves spontaneously, though it may infrequently require surgical correction. Hydrocele is also quite common in elderly men, again presumably due to impaired venous return, for it is frequently seen following hernia repair bringing about mechanical impairment of venous drainage. The usual hydrocele transilluminates well, is usually non-tender, though hydrocele may accompany epididymo-orchitis, in which case tenderness is a prominent feature.

Varicocele is a dilatation, engorgement, and enlargement of the veins of the pampiniform plexus, and may or may not be associated with varicosities elsewhere. Left varicocele was previously thought to be a diagnostic sign of left renal tumor, and while this is generally not the case, obstruction of the left renal and spermatic veins may occasionally result in varicocele.

Hernia, either direct or indirect, extending into the scrotum is often confused with hydrocele. The differential diagnosis should be quite simple, since the uninvolved cord can most often be palpated above the hydrocele mass, while the hernia mass, whether reducible or irreducible, may be palpated as arising from the internal inguinal ring and extending down into the scrotum. While hernia does not transilluminate as well as hydrocele, there may be some transmission of light and occasionally fluid levels within the bowel may be noted. No problem should be encountered in the differential diagnosis of the incarcerated or strangulated hernia because of the associated abdominal and systemic findings.

Spermatocele and epididymal cyst are quite similar in character, both arising from the epididymis. The spermatocele is frequently a multilocular mass and is extrinsic to the testis in contrast to hydrocele, which invests the testicle. Spermatocele is most often encountered in the older age group. It is translucent. Cysts of the epididymis transilluminate and are clear, and usually occur in younger men. These are symmetrical, soft, and non-tender. The epididymal cyst contains clear serous fluid, while spermatocele content is somewhat cloudy and contains sperm.

Secondary orchitis occurs following a variety of systemic diseases. It is said that secondary orchitis may occur as a result of thirty-four systemic diseases, exclusive of pyogenic infections. Mumps orchitis is of course the most common variety, but a similar orchitis occurs following typhoid fever and small pox. The testis under these conditions becomes quite swollen, and the tunica albuginea becomes quite tense. There may be an associated hydrocele. Aspiration of the hydrocele or incision of the tunica may sometimes relieve pain but is not usually the procedure of choice.

Testicular tumors are the most important group of scrotal masses, and while it is beyond the scope of this paper to cover the pathologic classification of testicular tumors, it should suffice to say that the vast predominance of tumors arising in the testicle are malignant, while masses arising outside the testicle are usually benign. It is therefore of the utmost importance to differentiate the site of origin of a scrotal mass. Testicular tumors are usually painless swellings, though in the later stages the very bulk of the mass may cause some discomfort. There are no differential diagnostic features to characterize seminoma and teratoma as opposed to the more vicious varieties of testicular tumor, embryonal carcinoma, teratocarcinoma, and choriocarcinoma. Testicular tumors produce the traditionally "heavy scrotum," with some stretching of the scrotal skin. They are most often solid and firm to palpation, though teratomas may have some cystic areas. Tumors may become infarcted, causing acute pain and tenderness, followed by necrosis and suppuration. The urgency of treatment of testicular tumors demands prompt diagnosis.

Tumors of the epididymis are usually benign. The most common epididymal tumor is the adenomatoid tumor, comprising more than half of the solid neoplasms of the epididymis. Adenomatoid tumors are usually discreet, slowly growing nodules which are non-tender and asymptomatic.

Tumors of the cord and tunics are equally uncommon, but include fibromas, lipomas, and, rarely, sarcomas. Vascular tumors of these structures are uncommon, but adenomatoid tumors have been reported. Carcinoma of the rete testis is quite a rarity, but metastatic carcinoma may occur in the cord, the tunics, and the testis and epididymis.

Functional tumors of the testis include interstitial cell carcinoma and androblastoma, and are recognized on the basis of the systemic endocrinological changes as well as the palpable scrotal mass. Fortunately these tumors are most unusual.

Tuberculosis of the testis, epididymis, and scrotal wall is no longer a frequently encountered pathologic condition. Tuberculous epididymitis and orchitis, however, usually present as rocky-hard induration of the scrotal contents, sometimes with eruption through the scrotal skin. Genito-urinary tuberculosis is always a secondary manifestation of disease elsewhere, usually pulmonary or gastrointestinal. A tuberculous mass in the scrotum is usually non-tender, but must be differentiated from simple bacterial epididymo-orchitis, the latter generally of a more rapid onset.

Syphilitic gumma of the testis was once a common occurrence in urologic practice, but is only rarely seen today. Such a situation represents chronic longstanding infection, usually in the epididymis and testis, with a so-called "cold abscess" associated. The diagnosis is made on the basis of systemic lues, dark field preparations, and a positive serology.

Diagnostic Technique

The first important step in the differential diagnosis of scrotal masses is a careful and painstaking history. Frequently the history will represent the patient's interpretation of events and may be somewhat misleading, since most patients relate any scrotal swelling to some form of trauma, either real or imaginary. The possibility of pre-existing urinary infection must be carefully considered, and systemic diseases such as tuberculosis, syphilis, fungus disease, and vascular disease must be ruled out. Among the latter, endarteritis obliterans secondary to syphilis may cause pain in the scrotum, as will thromboangiitis obliterans. Co-existing parotitis most certainly suggests a mumps orchitis. The relative rapidity of onset of pain and swelling in the scrotum may indicate whether the mass represents an inflammatory process or sudden acute trauma with torsion or hematoma. The age of the patient must also be considered in differentiating torsion from epididymitis.

Careful observation of the scrotum is essential to accurate diagnosis. Patients should always be examined both supine and upright. Inguinal hernia is most apparent with the patient upright and may disappear or be reduced with the patient in the supine position. Hydrocele, on the other hand, is most prominent with the patient supine. The "heaviness" of the testicular tumor is best appreciated with the patient standing, and while there is apparent shortening of the penis in hydrocele due to encroachment by the mass, there is no such apparent shortening with testicular tumor. The color of the skin of the scrotum should also be carefully noted since increased rubor over one scrotal compartment may indicate an inflammatory process. Observation of hematomata within the scrotal skin can easily be made, and the various warts, cysts, and infectious processes of the scrotal skin can often be diagnosed visually.

Palpation of the scrotum and its contents may often prove to be a tedious ordeal for both the examiner and the patient, since many scrotal masses are inflammatory and considerable tenderness may be involved. Induration or edema of the scrotal skin may be quickly noted, but it must be determined if the scrotal contents can be separated from the indurated mass, in which case skin involvement alone would be indicated. It is urgent that the physician determine whether the mass arises from the testicle, from other scrotal contents, or extrascrotally. The epididymis lies along the posterior aspect of the testis and runs from pole to pole with a palpable groove at its juncture with the testis. In most instances, it is possible to differentiate testis and epididymis, hence determining the origin of an intra-scrotal mass. Injection of the cord with procaine may facilitate a more leisurely examination of the inflamed epididymis and testis. In torsion of the testis there is swelling of both the epididymis and the testis in proportional degree due to congestion of the entire dependent portion of the cord.

The differentiation of hydrocele, spermatocele, and hernia seems to be a great problem in many instances. Hydrocele uniformly surrounds the testis and transilluminates. Hernia, on the other hand, arises from the inguinal ring; the cord cannot be palpated above the mass, it does not transilluminate well, and the scrotal contents are displaced by the hernia mass. Spermatocele arises extrinsic to the testis and transilluminates poorly with a dull translucent quality. Hydrocele tends to "fill" the scrotal compartment, and in so doing causes some apparent shortening of the penis. This is undoubtedly due to the fact that the enlarging hydrocele impinges upon the skin of the scrotum at the juncture with penile skin. Hydrocele may sometimes mask a tumor of the testicle, and if this is suspected, aspiration of the hydrocele is in order to afford better palpation of the testis. Hematocele or an old infected hydrocele may have a thickened, fibrotic wall, and may indeed be loculated, making differentiation quite difficult. When in doubt, surgery is indicated.

Laboratory tests are often helpful in making a differential diagnosis. Simple routine urinalysis will indicate the presence of urinary infection, and bacterial studies will indicate the organism. A "sterile" pyuria should raise a suspicion of tuberculosis. A routine hemoglobin may indicate the presence of an anemia which may be associated with malignancy. The white blood count is usually elevated with the inflammatory diseases of the scrotum. A chest film may demonstrate tuberculosis or metastatic disease. A serology will be helpful in the diagnosis of syphilis. Intravenous urograms are of assistance in diagnosing tumors of the urinary tract and fossae of infection. In functional testicular tumors, endocrine assays may be necessary.

In short, with careful consideration, a differential diagnosis may be made in most scrotal masses. The astute examiner will ask certain questions of himself in making an accurate appraisal of the scrotal mass.

(1) Is it possible to palpate the cord above the mass, indicating intra-scrotal as opposed to extra-scrotal origin of the mass?

(2) Does the mass arise from the testis or from the epididymis, and if from the testis, do history and examination suggest tumor?

(3) Is there evidence to suggest acute inflammatory origin of the mass?

(4) Is the mass extrinsic to the testis or is the testis intimately involved, as with hydrocele?

(5) Is the scrotal skin involved in the mass, and does the mass arise within the scrotal contents or within the skin itself?

(6) What are the systemic and laboratory findings to suggest possible origin of the scrotal mass?

Table II presents certain differential diagnostic features of the more common scrotal masses.

Treatment

Treatment of various scrotal masses depends upon an accurate evaluation and diagnosis. For the most part, acute inflammatory conditions of the scrotum and its contents are best treated conservatively with bed rest, antibiotics, local applications of heat or cold as the occasion demands, and appropriate analgesia. The one acute situation which must be treated surgically and immediately is torsion of the testis, which requires release of the torsion and proper fixation of the testis and cord. Since the defect resulting in torsion is congenital, it is usually bilateral, and the unaffected side should also be explored and fixation carried out at the time of original surgery. Unfortunately, diagnosis of torsion is usually delayed to the point that orchiectomy becomes necessary, and the frequency of confusing torsion with epididymitis (rare in children) must again be stressed. The occasional exploration of an acute epididymitis may be forgiven if it is accomplished in an effort to relieve a suspected early torsion.

TABLE II

DIFFERENTIAL DIAGNOSTIC FEATURES OF COMMON SCROTAL MASSES

MASS	HISTORY	ASSOCIATED SYMPTOMS	APPEARANCE	PALPATION	SYSTEMIC SIGNS
Hydrocele	Usual slow onset. Vague discomfort and aching.	Possible epididymitis, tumor, tuberculosis or co-existing hernia.	Tense smooth mass with apparent shortening of the penis. Transilluminates well.	Extends to but does not involve inguinal canal. Cystic nontender.	Usually none except those due to co-existing disease.
Hernia	Gradual or sudden onset; aching pain and abdominal discomfort commonly.	If strangulated, symptoms of intestinal obstruction.	Mass may be reducible. Cannot be transilluminated usually.	Smooth, nontender mass, extending down from the inguinal canal.	If strangulated, progressive shock occurs.
Epididymitis	Acute onset of pain and swelling. May have history of urinary infection. Very rare in children.	Symptoms of urinary infections and possible instrumentation.	Scrotum red and tense. Does not transilluminate.	Firm, exquisitely tender mass, separate from testis. Pain relieved by elevation.	Fever, malaise, nausea often occur. Elevated white count.
Torsion	Acute onset, pain improving as time passes; trauma or exercise often associated.	Sweating, nausea and vomiting; no relief by local measures.	Reddish-violet discoloration of scrotum; progressive swelling of scrotal contents.	Cord and testis edematous, tense, tender, unrelieved by elevation.	Shock-like state which may improve as opposed to strangulated hernia.
Varicocele	Rather slow onset of swelling in the upper scrotum.	Dull aching pain or dragging sensation.	Scrotum enlarged with mass usually visible above the testis; opaque.	Characteristic "bag of worms"; vessels palpable; nontender.	Usually none; may have other varicosities; rarely renal tumor with venous obstruction.
Testicular tumors	Incidental finding of scrotal mass by patient, usually young or middle-aged men.	Generally painless. May have secondary symptoms due to metastases or to functioning tumor. Usually malignant.	Traditionally "heavy" scrotum. Penis not apparently shortened. Opaque mass. Dilated veins often.	Usually solid and firm, nontender. Arises from testis but may involve epididymis or skin; and may be fixed.	Gynecomastia occasionally. Palpable metastases to retroperitoneum, groins. Virchow's node.
Spermatocele	Painless enlargement in elderly patient.	Usually none.	Intrascrotal mass varying to many cm. in diameter, arising from the epididymis.	Cystic mass which is cloudy on transillumination. Nontender. Testis is extrinsic to mass.	None.
Epididymal tumors	Painless "lump" of long duration.	Vague discomfort, if any.	Knotty mass, variable size, on epididymis.	Firm or hard nontender mass, movable.	None. Almost always benign.

Chronic inflammatory conditions of the scrotum rarely require immediate surgical intervention. The etiology of the chronic inflammatory process may most often be determined by various laboratory methods, and once the diagnosis of the underlying systemic or local disease is made, treatment may be carried out appropriately. Tuberculous epididymo-orchitis, syphilitic gummata, fungal diseases of the scrotal contents, and suppurative processes within the scrotum may be best treated by orchiectomy utilizing high amputation of the cord. Chronic simple bacterial infections may be treated by conservative measures, though epididymectomy and vasectomy often may be indicated.

Repair of hernia, hydrocelectomy, spermatocelectomy, and excision of various cysts are elective procedures except in the instance of strangulated hernia, of course.

Testicular tumors must be treated promptly, and if the index of suspicion is such that there is little doubt as to the diagnosis, biopsy is not indicated. High inguinal ligation and amputation of the cord is the treatment of choice. The subsequent management, whether surgical or radiological, must depend upon the nature of the tumor.

Varicocele, unless associated with very severe symptoms, is usually best treated by a scrotal support rather than by surgery. Often, however, severe pain in the area necessitates surgery. The best operative method to date appears to be high ligation of the entire venous return of the spermatic cord. Other methods, including excision of the dilated vessels, appear less successful.

Tumors of the epididymis and cord, unlike testicular tumors which should be treated more radically, may be removed locally without sacrifice of remaining scrotal contents, since most tumors of extratesticular origin are benign.

Summary

The differential diagnosis of scrotal masses is often a difficult process but is extremely important since the management of scrotal masses varies greatly depending upon the etiology of the mass. Careful history, inspection, palpation, and laboratory data, associated with an intimate understanding of the basic anatomy and pathology of the region and organs affected, should lead to an accurate diagnosis. The management of scrotal masses depends entirely upon the nature of the underlying process. Certain common and uncommon conditions of the scrotum and its contents are discussed, along with aspects of diagnosis and treatment. An etiologic classification and a tabulation of differential diagnostic features are presented.

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Arterial By-Pass Grafting in Arterial Insufficiency States—With Arteriographic Studies

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THE early attempts at arterial reconstruction for arterial insufficiency confined themselves to thrombo-endarterectomy.[1,2] This method is usually successful in the aorta and iliac vessels. Refinements of the technique have extended the use of this procedure to the femoral and popliteal vessels.[3]

The next phase consisted of arterial replacement; this has been done by autologous vein,[4] homologous artery,[5] and prosthetic substitution. By-pass grafting with preservation of the collaterals and without resection of the involved segment is presently believed to be the method giving the best results.[6,7] Prosthetics are widely used for the by-pass; Nylon,[8] Vinyon-N,[9] Ivalon Sponge,[10] Dacron,[11] and Teflon,[12] are all successful in the hands of men who understand their use. Teflon is less wettable and seems to show practically no weakening of the fibers after implantation.

Clinical Types of Arterial Insufficiency

Chronic arterial insufficiency of the extremities may manifest itself in one of two ways, depending upon which of the two physiologic compartments in the extremities is involved, the integument, or the muscle mass. Lack of adequate arterial supply to the former results ultimately in gangrene, and lack of sufficient blood supply to the latter results in exercise pain and later in rest pain. Pain on exercise is known as intermittent claudication.

Ischemia resulting from a reduced lumen of various segments of the arterial system is the underlying cause of both of the above syndromes. Early in the disease, there is only a reduced lumen; later, there is obliteration of the lumen. In the past few years, it has become increasingly apparent that high segmental arterial occlusion is very often the cause of peripheral damage and necrosis. Formerly, it was believed that the occlusion was restricted to the distal vessels. We know now that occlusion frequently occurs in the aorta, in the iliac, and in the femoral arteries. All these arteries are of sufficient calibre to allow for successful arterial surgery.

1. Intermittent Claudication

Patients who complain of reduced ability to walk and who have extremity, hip, or back pain after minimal exercise, may be suffering from a high arterial occlusion. The very high occlusive lesion sometimes results in low back pain with standing and stooping over a bed, workbench, etc. This pain associated with exercise or effort is relieved by rest. The symptoms may be unilateral or bilateral and are often accompanied by cramping and soreness in the muscles of the extremities. Upper-extremity involvement of this nature is rare. The inability to sustain an erection in the male is a part of the syndrome described by Leriche in which there is obliteration of the terminal aorta and the bifurcation.

Clinically, these patients show the following:

1. Rapid fall-off or absence of pulses at iliac, femoral or popliteal levels.
2. Sharp drop in oscillometric indices, from proximal to distal segments.
3. Bruits over vessels near level of stenosis.
4. Absence of pedal pulses.
5. Usually good nutrition of integument, in terms of presence of digital hair, lack of atrophy of skin, good color and normal skin temperature.
6. Fair to good venous filling.

2. Impending or Frank Gangrene

Patients in this category usually have more extensive or multiple occlusions with less collateral circulation. The ischemia is overt or not but is limited to a toe tip, heel or limited ulceration; the lesions under observation are seen to progressively deteriorate.

Even prior to the onset of necrosis, patients in this group usually exhibit:

1. Atrophic skin change with loss of digital hair, thinning of skin, brittle nails, etc.
2. Reduced skin temperature.
3. Cyanosis.
4. Dependent rubor.
5. Venous filling extremely slow.
6. Marked blanching on elevation.
7. Absent pedal pulses.
8. Reduced oscillometric indices.
9. Rest pain common.
10. Superficial ulceration with failure to show adequate healing, a prominent feature.

Management of These Two Groups

Arteriography

In 1931, Egas Moniz[13] demonstrated that in vivo arterial injection could be performed to demonstrate peripheral arteries. Today, percutaneous arteriography is commonplace and should be offered to those with impending or limited tissue necrosis, as well as those with exercise pain. Statistically, about 25 per cent of limbs threatened with major amputation may be salvaged.[14] Arteriography allows the surgeon to determine the extent of the occlusion and its location. A study of the distal arterial run-off as well as the amount and extent of arterial disease makes possible the decision for or against definitive arterial surgery.

Hypaque 50 per cent has been found to give excellent radiographs with rare reactions. Peripheral arteriography is relatively inocuous; aortography which is done when both lower limbs must be studied and/or when there is no accessible common femoral lumen requires rigid adherence to minute detail, and is potentially dangerous. These studies help pick out the cases in the two categories listed above who should be considered candidates for arterial surgery. Probably the one most important anatomical factor governing acceptability for surgery is the distal vascular bed which must show a major arterial trunk below the occlusion; see Plate II, Figure I. The posterior tibial artery may on occasion prove an adequate graft host. See Plate III,

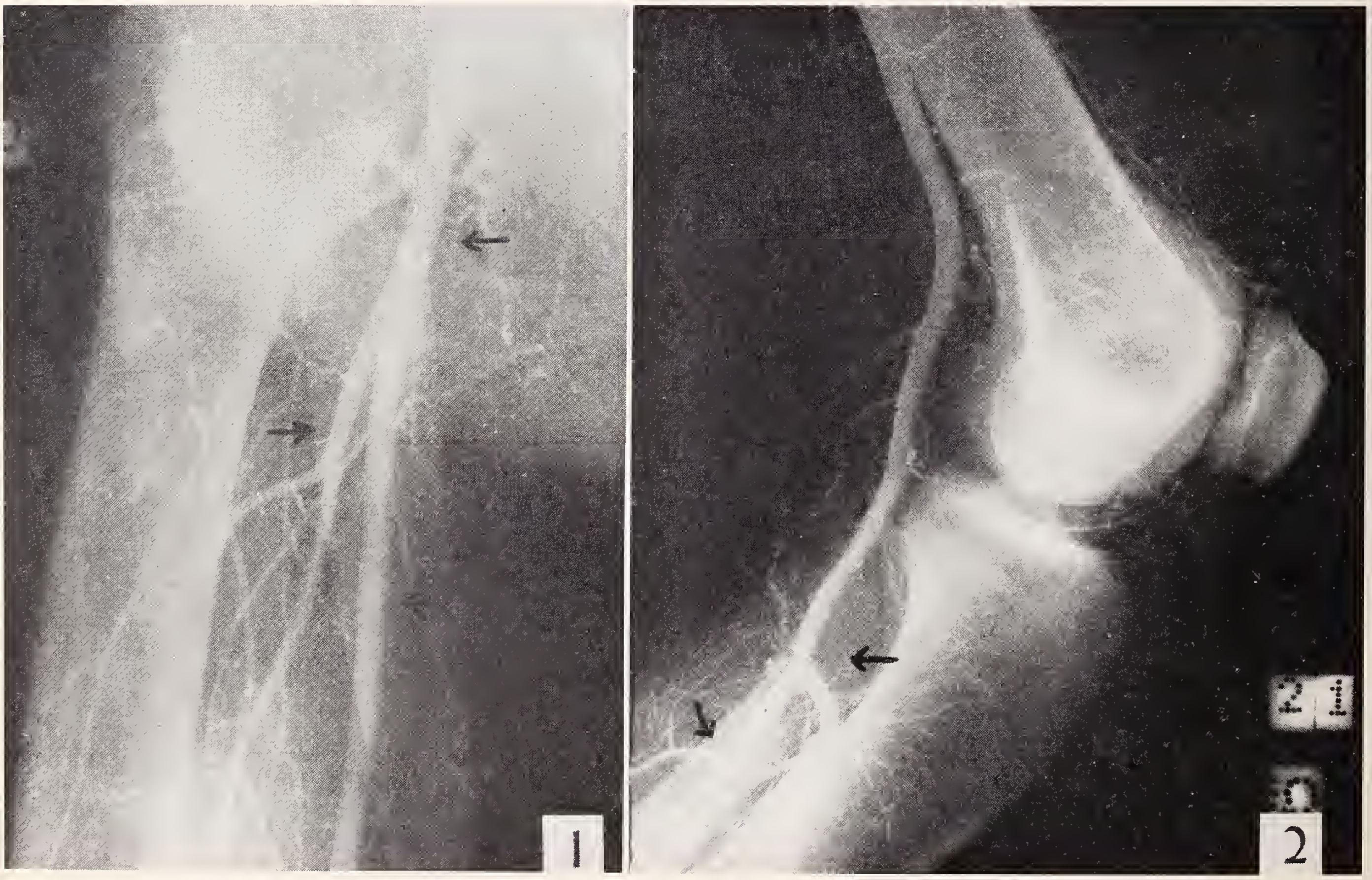

Plate I

1. Normal femoral arteriogram, common femoral atery—(upper arrow), deep femoral atery—middle arrow, superficial femoral artery—lower arrow. 2. Popliteal Arteriogram, normal lateral projection. Anterior tibial artery—(upper arrow) posterior tibial artery—(lower arrow).

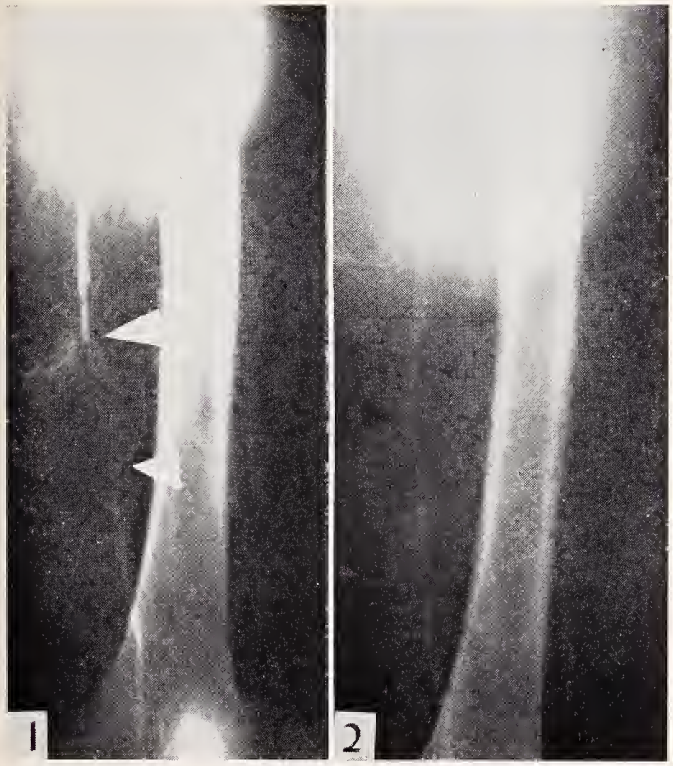

Plate II

1. Femoral arteriogram, showing seven cm. long block in superficial femoral artery. Patient had gangrene of great toe. 2. Femoral Arteriogram—same case—following replacement autogenous vein graft. Healing of gangrene, return of pulses.

OSCILLOMETRY (MAXIMAL)

	PRE-OPERATIVE			POST-OPERATIVE	
	R	L		R	L
Calf	5.5	0.0	Calf	4.0	3.0
Ankle	1.0	0.0	Ankle	1.0	2.5

Figure I, and Figure II. Unless a good run-off is present, any attempt at surgery is doomed, as thrombosis will result from inability of the newly channelled blood to find its path into the distal extremity.

Arteriography is of considerable value in specific cases in following the course of a patient's disease. This is shown in Plate IV. The femoral arteriogram done on July 26, 1955 showed excellent retrograde filling of the right external iliac artery. On December 21, 1957, an aortogram showed complete occlusion of this vessel. Operative and post-operative arteriography is used to determine the patency of the distal arterial tree in cases in which the peripheral pulses cannot be readily palpated or when there is some question as to the success of the surgical procedure prior to wound closure. (See Plate III, Figure II; Plate II, Figure II; and Plate V, Figure II.)

Normal angiograms are helpful for comparison, since interpretation is difficult at times. A normal femoral arteriogram is seen in Plate I, Figure I and a normal popliteal arteriogram in Plate I, Figure II. A normal translumbar aortogram is seen in Plate VI, Figure I. Comparison of normal angiograms with those showing occlusion usually show marked development of collateral circulation in the latter. (See Plate III, Figure I.) This same collateral circulation is seen to diminish once the occlusion is corrected, same case, Plate III, Figure II.

Arteriography may be used to corroborate patency and branching in an aneurysm when these are in doubt. Plate V, Figure I shows a popliteal aneurysm with a central lumen and a large peripheral clot.

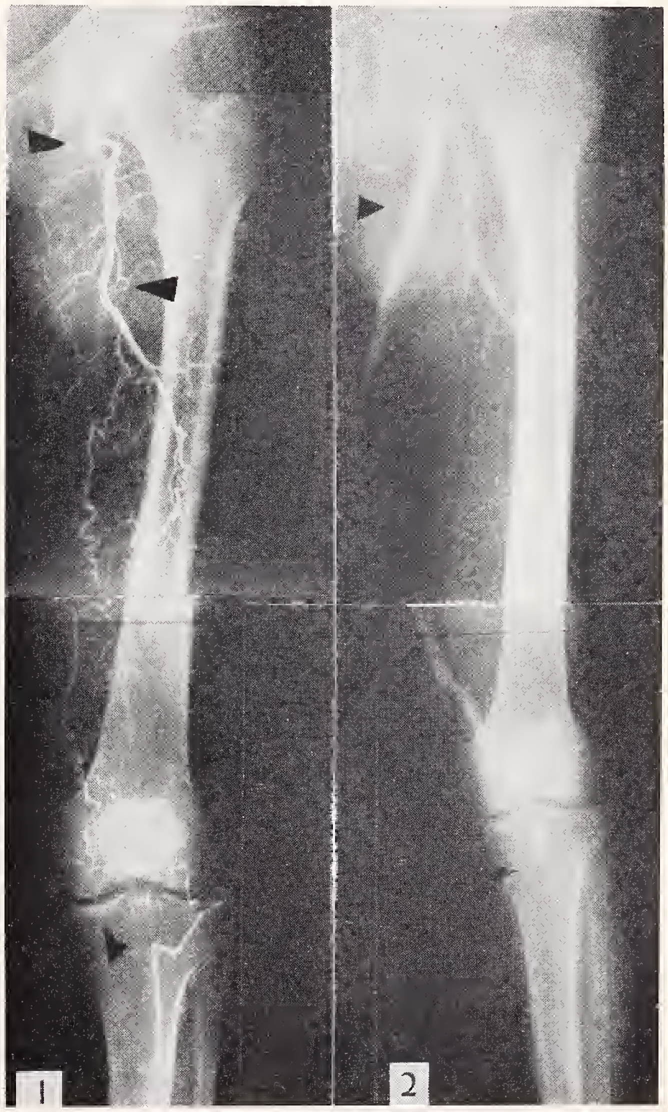

Plate III

1. Femoral arteriogram—Blocked superficial femoral artery from origin, (upper arrow), to posterior tibial artery, (lower arrow). Deep femoral (middle arrow) communicating with posterior tibial through a lateral genicular branch.—2. Femoral arteriogram—same case, showing Dacron by-pass graft (upper arrow) from common femoral artery to posterior tibial artery, (lower arrow). Note marked reduction in filling of collateral circulation and deep femoral. Return of pulses, healing of lesion.

OSCILLOMETRY (MAXIMAL)

	PRE-OPERATIVE			POST-OPERATIVE	
	R	L		R	L
Calf	4.0	0	Calf	4.0	2.0
Ankle	3.5	0	Ankle	3.5	1.5

This vessel is shown in Plate V, Figure II after aneurysm resection and replacement with a Nylon graft and Plate V (a) shows the resected aneurysm. With aortic obstruction, the decision to resect or do an endarterectomy often can be reached after studying the aortogram. Plate VII shows an aortic bifurcation obstruction with involvement of both common iliac arteries. Collateral circulation is extensive and a greatly enlarged inferior mesenteric artery is seen delivering blood to the pelvic viscera.

Definitive Arterial Surgery

This report deals primarily with prosthetic materials which have been found satisfactory in the author's hands. The availability of this material originally was a factor of great significance. Because of this, the fabricated Nylon tubing perfected by Edwards and Tapp[8] was used almost entirely to the exclusion of other materials in the early cases herein reported. More recently, elastic Dacron and Teflon tubing has been used. These materials are non-reactive in the human tissues, are treated to prevent intravascular clotting, and pulsate like arteries. Crimping the completed Nylon tube allows any section of it to bend without reduction in lumen size, thereby making it possible to cross one or more joints. The elastic Dacron and Teflon tubing may be used crimped or uncrimped, though the former is preferable.

In the author's hands, these materials have been used both as by-pass and for arterial replacement; detailed information obtained from studying the arteriograms has assisted greatly. Arterial surgery has been performed to correct exercise pain, to salvage failing limbs, and in the resection of aneurysms with restoration of arterial continuity. As would be anticipated, limb salvage is the most trying and the least successful, although statistics from other clinics indicate that 25 per cent of limbs threatened with amputation may be salvaged.[14]

The by-pass operation is done through a single incision if the segmental occlusion is short. When this is not feasible, two short incisions are made and the graft passed through a subcutaneous tunnel between the two wounds. The collateral arterial

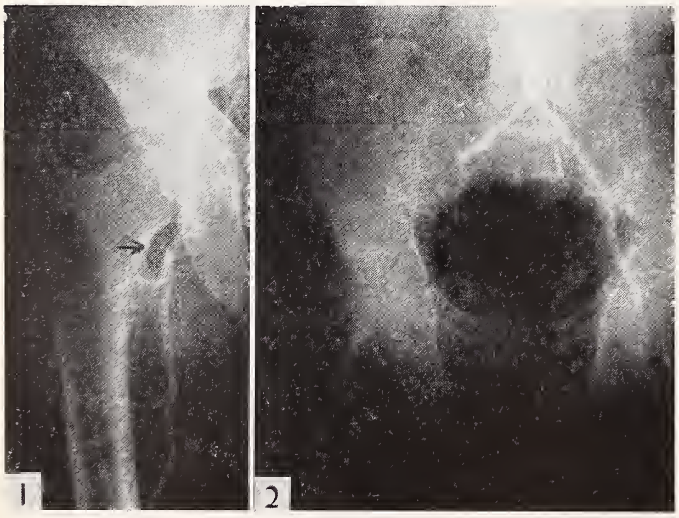

Plate IV

1. Femoral Arteriogram, July 26, 1955. Common femoral plaque (arrow). The superficial femoral artery blocked to knee. 2. Translumbar Aortagram, December 21, 1957. Same case—2½ years later, showing progress of disease. Right external iliac blocked at origin, right common and superficial femoral blocked. Left superficial femoral artery blocked.

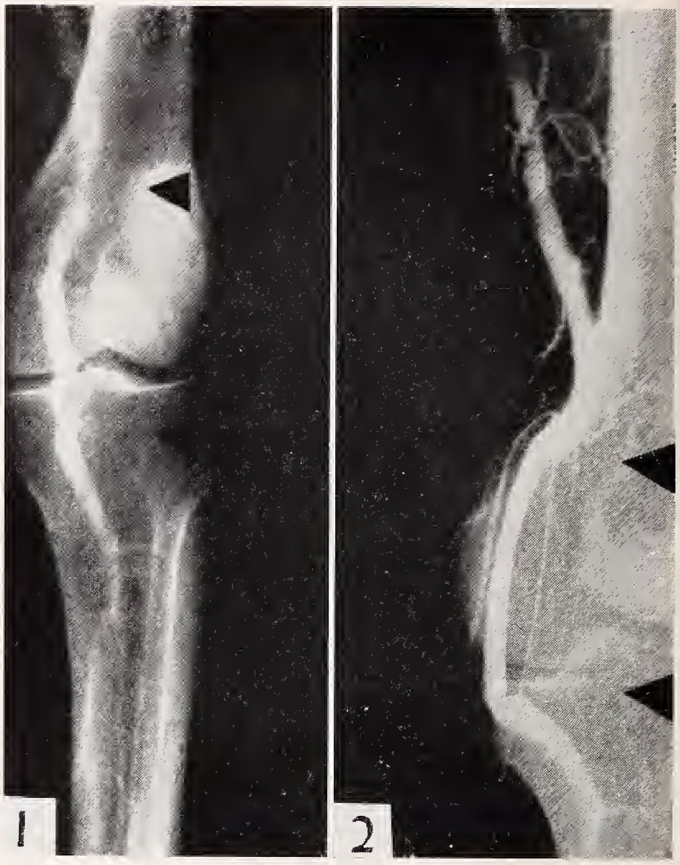

Plate V

1. Popliteal Arteriogram. Demonstrates popliteal aneurysm between the arrows. Aneurysm has central lumen, peripheral clot from which distal embolus originated. 2. Popliteal Arteriogram. Same case—following resection of aneurysm and Nylon replacement graft, between arrows.

Plate Va

Specimen—Resected Popliteal Aneurysm. Same case as on Plate V.

trunks are not destroyed and the obstructed segment not removed. Two end-to-side arterial anastomoses are performed using 5-0 arterial silk. An over-and-over Carrel type suture is usually adequate.[15] If the parent vessel is small or diseased, a safer anastomosis is the interrupted mattress stitch. This will give a minimum amount of loss of lumen as previously described by the author.[15]

Minimal bleeding occurs from the graft and from the suture lines when the occluding vascular clamps are removed. The graft pulsates vigorously as does the distal artery. Return of dorsalis pedis and posterior tibial pulses may be evident within an hour or two after completion of the surgery, though sometimes they cannot be palpated for several days.

Post-operatively, the patients are ambulated on the third day if the graft has not crossed a joint space. The latter cases have been kept at rest for about one week. These intervals have been arrived at arbitrarily. Experimental work on healing of arterial wounds performed by the author in 1949[16] and work of Howes, Sooy, and Harvey[17] would seem to indicate that all these patients could be safely ambulated immediately. These wounds are probably at their weakest at about the 5th post-operative day.

When the grafting has been successful, there will be an increase in skin temperature of the foot, and correction of the pre-operative complaints of rest or exercise pains. The oscillometric index will be improved along with other manifestations of an improved blood supply.

In the ischemic extremities, the cyanosis disappears and the skin lesions heal. Patients with claudication find that, instead of being able to walk one-half block, they can walk upwards of a mile and that climbing stairs, which formerly was a challenge, becomes an every-day routine. People who have given up jobs and the hope of returning to work start to live again.

The results of arterial surgery are dramatic. Figures for recurrences are reported by DeBakey in a group of 63 cases, with 27 iliacs—O; of 36 femorals, 14 per cent or five grafts occluded. Linton found that in end-to-end grafts (no longer used), recurrences were 60 per cent in six months but that in by-pass grafting of femoral occlusions, 81 per cent remained patent one to eight months.[18, 19] Despite graft closure when it occurs, the limb is often more secure especially if limited resection of necrotic tissue has been performed while the graft was functioning. A small percentage of 24 hour closures occur; most of these can be successfully reoperated on. The commonest complications of this surgery, with exception of occlusion, gravitate about anticoagulation therapy which is commonly used.

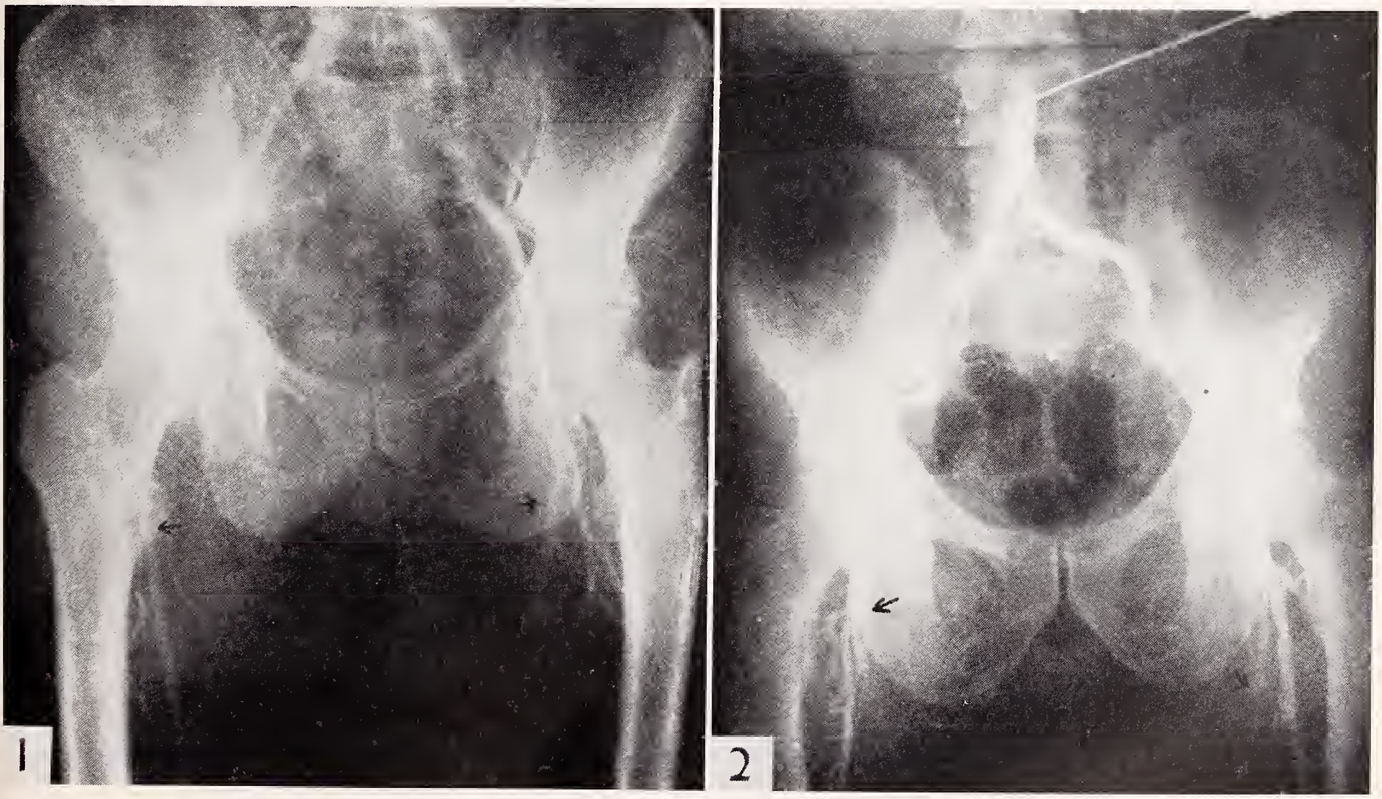

Plate VI

1. Translumbar Aortagram, Normal, shows iliac and femoral vessels intact.

2. Translumbar Aortagram. Block of superficial femoral arteries bilaterally, short distance beyond origin. Arrow shows superficial femoral arteries, intact in Figure I, and level of occlusion in Figure II. Note marked increase in diameter of profunda, (lateral to superficial femoral) in Figure II where occlusion is present.

Bleeding, hematoma formation, and wound infection require management with constant thought of the primary problem. Thrombo-phlebitis in the operated limb is quite common, even with anticoagulation. A sympathectomy may or may not be used in conjunction with this type of arterial surgery.

Case Reports: All the patients described in this section were treated at the Grace New Haven Community Hospital with the exception of Case No. 2 who was cared for at the Hospital of St. Raphael.

Case No. 1—A. C., a 61 year old white male patient seen first on August 12, 1953 because of superficial gangrene of the great toe of the left foot. The entire foot was cold. Oscillometry was:

	RIGHT	LEFT
calf	10.0	0.0
ankle	5.0	0.0

The patient was immediately admitted to the Grace New Haven Community Hospital and an arteriogram performed. (See Plate II, Figure I.) This showed a seven-centimeter segmental occlusion of the mid-portion of the left superficial femoral artery. The occluded segment was resected and the patient's saphenous vein used as a graft. Repeat arteriography showed a patent graft, (see Plate II, Figure II). There was rapid improvement and the gangrenous skin sloughed and the foot warmed up. Post-operatively, the oscillometry was:

	RIGHT	LEFT
calfs	10.0	4.0
ankle	5.0	2.0

The lesion went on to full healing.

Case No. 2—L. B., is a 53 year old white male patient who was first seen on July 8, 1955 because of intermittent claudication on walking three blocks. Examination at that time revealed the oscillometry to be:

	RIGHT	LEFT
thigh	3.0	trace
calf	3.0	0
ankle	1.0	0

The patient was admitted to the Hospital of St. Raphael on August 21, 1955 and a femoral arteriogram performed. Since the outflow tract was considered poor, a left lumbar sympathectomy was done. A warm, dry foot resulted and the symptoms were somewhat relieved.

On October 7, 1957, the patient was seen again. This time he complained of rest pain of several weeks duration. He had been unable to sleep during this time and had stopped work. Examination at that time showed oscillometry:

	RIGHT	LEFT
thigh	3.5	0
calf	5.5	0
ankle	1.0	0

The foot was cold, several toes were cyanotic and an ischemic ulcer was present laterally, at the base of the fifth toe.

He was admitted to the Grace New Haven Community Hospital on November 1, 1957 and a repeat femoral arteriogram was performed. The superficial femoral artery was blocked from origin to termination and, in addition, the popliteal artery was blocked. The posterior tibial artery was visualized and appeared quite large presumably due to collateral filling as a result of the sympathectomy.

The patient was advised of the desperate condition of his limb and of the meagre possibility of using his posterior tibial artery as a graft host. He elected to have the surgical attempt and it has been entirely successful to date. The patient returned to his regular job and walks one to two miles without rest. Plate III, Figure I shows the pre-operative arteriogram, and Figure II, the one after by-pass grafting. His post-operative oscillometry is:

	RIGHT	LEFT
calf	5.0	3.5
ankle	1.0	1.5

Case No. 3—T. C. is a 53 year old white male who has had clinical diabetes for many years, but has not

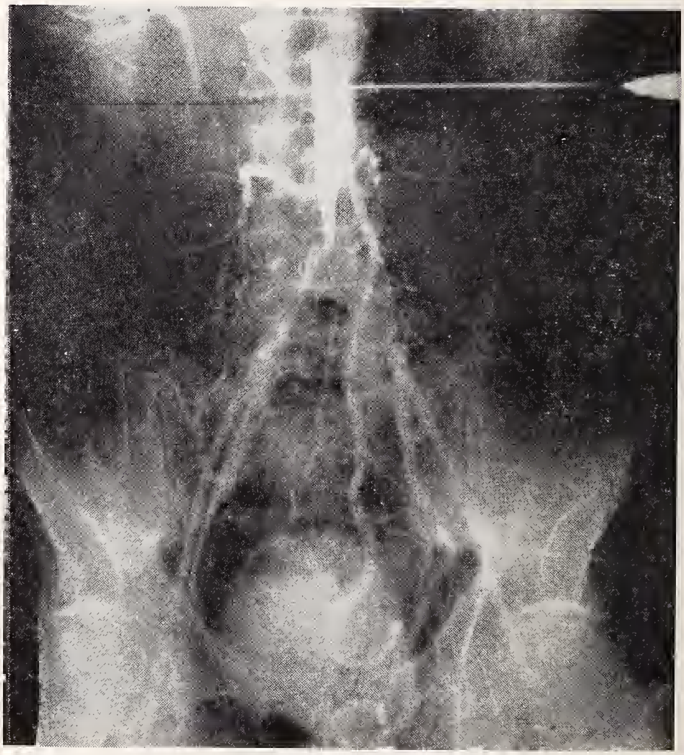

Plate VII

Translumbar Aortagram-Leriche syndrome with blocked terminal aorta and both common iliac arteries. Inferior mesenteric artery grossly enlarged (arrow).

OSCILLOMETRY (MAXIMAL)

PRE-OPERATIVE			POST-OPERATIVE		
	R	L		R	L
Calf	0.75	1.0	Calf	5.0	4.5
Ankle	0.5	0.75	Ankle	2.5	2.5

required insulin. He was first seen on June 17, 1955 at which time he complained of pain in both calves for three years on walking ten blocks. He was admitted to the Grace New Haven Community Hospital and on July 25, 1955, a femoral arteriogram was performed, (see Plate IV, Figure I), which showed a block of the superficial femoral artery at its origin. He was later admitted to the Hospital of St. Raphael on February 28, 1956 and a lumbar sympathectomy was performed. This produced a hot, dry foot but did not appreciably improve his claudication. At that time, his oscillometric studies revealed the following:

	RIGHT	LEFT
thigh	1.0	1.5
calf	0.5	1.0
ankle	0.5	1.0

The patient has had a progressive reduction in his exercise tolerance so that further studies were indicated. On December 20, 1957, he was readmitted to the Grace New Haven Community Hospital; on the following day a translumbar aortogram was performed because the right femoral pulse had disappeared. This showed occlusion of the common femoral artery and the entire length of the external iliac vessel on the right side. In addition, the proximal portion of the both common femoral arteries showed atherosclerotic disease. (See Plate IV, Figure II.) At that time, the oscillometry was:

	RIGHT	LEFT
thigh	0.75	1.5
calf	0.5	1.0
ankle	0.25	1.0

Since the integementary nutrition is still good, this patient is being kept under observation and grafting and/or endarterectomy are being held in abeyance.

Case No. 4—F. S. is an 81 year old white male patient who had been doing well until October 26, 1956 when he had the sudden onset of pain in his left leg and foot. He noted coldness and cyanosis to follow the pain and to persist. He was admitted to the Grace New Haven Community Hospital on October 26, 1956 and at that time he had severe pain in the left calf and foot with a sensory and temperature level at mid calf and a motor paralysis level at the ankle. A popliteal aneurysm the size of an adult fist was found and noted to be pulsating.

Reflex vasodilatation was encouraging but the response was short-lived, even with Heparinization. Sympathectomy was therefore performed with some further benefit, but 48 hours later, it became obvious that the foot could not be saved. Femoral arteriography was performed on October 26, 1956 and showed the dilated popliteal artery, and a good outflow distally. (See Plate V. Figure I.) Since the popliteal aneurysm posed a further risk of repeated embolization, thrombosis, or rupture, it was resected on October 27, 1956, (see Plate Va) and a Dacron® elastic replacement graft inserted. (See Plate V, Figure II.) This made possible a below-knee amputation which was carried out without event.

This patient has subsequently done well and two years post-operatively, at the respectable age of 83 years, he walks about town unassisted with his below-knee prosthesis. He manages the latter extremely well, putting it on and taking it off without assistance. His graft, incidentally, continues to function well and is seen in Plate V, Figure II.

Case No. 5—T. M., is that of a 67 year old white male patient first seen on May 1, 1958 because of burning pain in the right great toe. His walking distance was one-fourth of a mile at that time at a very slow pace. Oscillometry was:

	RIGHT	LEFT
thigh	3.0	1.0
calf	2.5	0.5
ankle	0.75	0.25

There was noted dependent rubor of the forefoot on the right and venous filling was bilaterally poor. Hospital admission was advised for study and arteriography but the patient refused.

He was seen again on April 10, 1959 because of intolerable pain in the right foot even at rest. He had been unable to sleep for a number of weeks. Examination at that time revealed two ulcerations of the right foot, with severe dependent rubor to the ankle on the right and to the metatarsal level on the left. Oscillometry was:

	RIGHT	LEFT
thigh	1.0	trace
calf	0.25	trace
ankle	0.0	trace

A translumbar aortogram was done on April 16, 1959 and showed bilateral occlusion of the superficial femoral arteries beginning at their origin. No outflow tract whatever could be visualized. (See Plate VI, Figure II.)

A bilateral lumbar sympathectomy was performed on April 20, 1959 but was helpful to the left lower limb only. A right supra condylar amputation was performed on May 2, 1959.

Case No. 6—A. J., a 37 year old white male patient was sent by his local medical doctor to an orthopedist because of back pain. In addition to this symptom, he had increasing claudication to two to three blocks, easy fatiguability, and inability to sustain an erection.

On examination, his lower limbs appeared to have good nutrition, but there were no pulses palpable, not even the femorals. Oscillometric studies gave the following maximal swing of the dial:

	RIGHT	LEFT
calf	0.75	1.0
ankle	0.5	0.75

On June 16, 1958, the patient was admitted to the Grace New Haven Community Hospital and translumbar aortgraphy was performed. Plate VII shows the radiography which demonstrated a complete block of the aortic bifurcation. Extensive collateral circulation about the block is noted and the inferior mesenteric artery is seen to be especially large and to communicate with vessels in the pelvis richly. The external iliac, femoral, and popliteal vessels were all demonstrated to be patent.

A thrombo-endarterectomy was performed on October 1, 1958 with complete reconstitution of the lumen of the aorta and of both common iliac arteries. There was immediate return of pedal pulses. The patient left the hospital on October 18, 1958 and returned to work a few weeks later.

On post-operative follow-up three months later, it was learned that he could walk two miles without slowing down or resting and that he was able to do his former job without difficulty. Oscillometry of the lower limbs was as follows: Post-operative

	RIGHT	LEFT
calf	5.0	4.5
ankle	2.5	2.5

Summary

1. There are two major types of arterial insufficiency; one involves the superficial and one the deep compartment. Occlusion in the superficial system results in necrosis; while occlusion in the deep system results in exercise pain.
2. Arterial grafting may be used to correct either lesion. Operation is more difficult and results not as good in cases of gangrene.
3. Arteriography is a major aid to diagnosis and to planning definitive arterial surgery. Typical arteriographic studies, pre and post-operative, are shown.
4. Methods of arterial reconstruction are described. The by-pass technique is best for most cases and Teflon appears closest to a perfect prosthetic graft.
5. Grafting can be used successfully in resection of aneurysms with direct end-to-end replacement. Both homografts and prosthetic grafts may be used.

Appreciation is hereby acknowledged of the constant assistance given the author by Doctor Robert M. Lowman of the Department of Radiology, Memorial Unit, without whose efforts these excellent radiographs could not have been made.

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Opinion Survey And Relative Value Study

During the past eight months, an effort has been made to bring to the members of the Society a representative cross-section of information and opinion referable to medico-economics in general and to doctor-bill and hospital insurance in particular.

The several articles, including the one reprinted in this issue, have been completely unedited and have not sought to direct the thinking of the reader. The goal has been to present many points of view—some quite controversial—and to let each physician draw his own conclusions.

The General Manager would welcome the reaction of the membership to the content of these articles, expressing either agreement with or opposition to the thoughts of any of the various authors. A "letter to the editor" would effectively serve this purpose.

WRR

Fee Schedules: To Have or Have Not

Claude P. Callaway, M.D.
President, San Francisco Medical Society

There is little doubt that in our country good medical care is deemed a necessity. Nor can anyone dispute that the time of need for such care is, to the individual, unpredictable in the extreme—varying from no expense for long periods to financial catastrophe in the span of a few weeks. This combination of necessity and unpredictability has been countered by the pooling of individual risk in insurance plans.

All health insurance plans and governmental agencies who offer professional services by private physicians have, with negligible exceptions, either created or adapted fee schedules. In order to stay in business, an insurance company must predict with accuracy the utilization of the medical, surgical, pathology and laboratory and X-ray services covered. It must define its limit of financial responsibility to the insured. Thus hospital coverage may be defined as so many days at so many dollars. The responsibility for payment of professional services to physicians is defined by fee schedules.

If the insurer pays a fee to the patient—and the physician may charge the patient the same, less, or a greater fee—the plan is indemnity in type. If the insurer has a group of physicians who agree to accept his fee as full payment—such as CPS—the plan is service. Budgetary requirements force the above considerations to apply to medical care offered by governmental agencies.

Ten years ago, fee schedules offered by insurance companies and governmental agencies were almost uniformly archaic in description of procedures, neglectful of modern medical and surgical procedures, and woefully inadequate in fees. Many still are, because of premium structure and budgetary lack. Challenging this hopeless situation, many local medical societies and specialty groups, developed their own fee schedules. These efforts culminated in the CMA Relative Value Study which, for the first time, described the actual procedures of modern professional services, their relative value and their actual dollar value in a community or state. For the first time, doctors presented a fair and standard fee schedule, unassailable in accuracy.

Despite this general elevation of standards, the fee schedules, actuarially sound, derived from the Relative Value Study and, indeed, all fee schedules, are viewed with distrust or openly attacked by many physicians who point out that:

(1) A single fee for all physicians denies any difference in professional ability and creates a state of mediocrity.

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(2) No two surgical or medical procedures, though of the same description, are alike. There are easy appendectomies and there are those of extreme difficulty.

(3) Such average fee schedules create, in effect, a service-type plan, for the insurer may use such an average fee as a club to prevent any variation in fees.

(4) Such well-publicized average fee schedules create powerful demands and even legislative effort to bring about fee reductions for various special pressure groups.

Such objections and sad experiences have led many physicians to call for the abolition of all fee schedules.

There are many of these points we must accept. However, these facts remain:

(1) American patients have chosen to pay for their care by means of insurance.

(2) Insurance companies and governmental bodies, by their very nature, must define their responsibility in terms of fee schedules, whether they offer service or indemnity plans.

(3) Millions of patients in service, indemnity, or government plans, either by law, custom, or income, will be unable to offer the physician more than the indemnity schedule allows.

(4) Experience with OAS and many Federal and State plans, as well as CPS, would suggest that, like it or not, at this time most physicians will continue to provide professional care under fee schedules.

These plain facts bring a concluding question: Granted that all fee schedules are idealistically defective, there is no immediate prospect that they will be abandoned. Is it wise to allow insurers, the mass purchasers of health insurance, or governmental agencies, to define the procedures of medicine, describe their relative value, and impose their values? Or shall we who render the service, define, relate, and set the value on our own professional services?

Letter Writing Campaign Urged for Forand Bill

Other people are obviously still vitally interested in telling legislators how they feel about Forand-type proposals. Have you *written a letter lately?*

The AFL-CIO has called for an intensive letter-writing campaign in favor of the Forand bill as the House Ways and Means Committee scheduled a major test on the measure for early March.

Legislative Dir. Andrew J. Biemiller said trade unionists have only six weeks in which to write committee members and register their support of the measure before the committee meets in executive session to decide whether to report the bill for a vote by the entire House.

The measure—a key plank in labor's 1960 legislative program—would expand the social security system to provide medical and hospital care for the nation's senior citizens.

On Capitol Hill, meanwhile, there was evidence of growing support for the bill, including support from some Republicans. Addressing the recent AFL-CIO Legislative Conference, Rep. Alvin E. O'Konski (R-Wis.) called for its speedy passage.

Although opponents charge the added coverage would "break the treasury" O'Konski said, "experts estimate it would require only one-fourth of 1 per cent additional contributions by employers and employes."

Reprinted from AFL-CIO News, January 23, 1960.

168th ANNUAL MEETING
# of the
CONNECTICUT STATE MEDICAL SOCIETY

Hamden High School
2040 Dixwell Avenue, Hamden, Connecticut
April 26, 27, 28, 1960

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PRELIMINARY PROGRAM

Tuesday, April 26

Auditorium

Annual Meeting of the House of Delegates

Thomas M. Feeney, *Hartford, Speaker of the House, presiding*

10:00 Call to Order
Business Session

1:00 Luncheon for Officers, Members of the House and Guests

2:00 Resumption of Business

7:00 Annual Dinner of the Council

Wednesday, April 27

9:00 REGISTRATION—EXHIBIT HALL

AUDITORIUM

9:15 CALL TO ORDER—Ellwood C. Weise, Sr., Bridgeport, President of the Society
ADDRESS OF WELCOME—President, New Haven County Medical Association

9:30 NEW CHEMO-THERAPEUTIC AGENTS FOR NEOPLASTIC DISEASE
James F. Holland, Buffalo, New York

10:10 RECENT ADVANCES IN TREATMENT OF PARKINSONIAN DISEASE
Lewis J. Doshay, New York City

10:50 INTERMISSION TO VISIT TECHNICAL EXHIBITS

11:20 DIET AND CORONARY DISEASE
Herbert Pollack, New York City

12:00 BLUE SHIELD AND THE MEDICAL PROFESSION
Louis H. Bauer, New York City

1:00 LUNCHEON—Cafeteria of the High School
VISIT TO TECHNICAL EXHIBITS

2:00 ENZYMATIC DISEASE (Inborn Errors of Metabolism)
James B. Sidbury, Jr., Baltimore, Maryland

2:40 CURRENT KNOWLEDGE OF VIRAL HEPATITIS
Walter P. Havens, Jr., Philadelphia, Pennsylvania

3:30 **Meetings of Sections of the Society and Guest Organizations**

Section on Allergy
Eye, Ear, Nose & Throat Section
Section on Gastroenterology
Section on Physical Medicine
Connecticut Association of Medical Record Librarians
Connecticut Chapter, National Association of Social Workers (Medical Social Work Section)
Connecticut Diabetes Association

7:00 **Annual Dinner of the Society**

Thursday, April 28

9:00 Registration—Exhibit Hall

Auditorium

9:15 Film—"Facts About Fall-out"
(Presented by State Civil Defense Agency)

9:40 Treatment of Congenital Lesions of the Gastro-Intestinal Tract
Thomas V. Santulli, New York City

10:20 Stress Incontinence—Diagnosis and rx
C. Paul Hodgkinson, Detroit, Michigan

11:00 Intermission to Visit Technical Exhibits

11:30 Exploratory Thoracotomy in Diagnosis of Pulmonary Disease
Gustaf E. Lindskog, New Haven, Connecticut

12:10 Surgical Consideration in Treatment of Cerebral Arterial Insufficiency
E. Stanley Crawford, Houston, Texas

1:00 Luncheon—Cafeteria of the High School
Visit to Technical Exhibits

PROGRAM ARRANGED BY CONNECTICUT SOCIETY OF AMERICAN BOARD SURGEONS CONNECTICUT SOCIETY OF AMERICAN BOARD OBSTETRICIANS AND GYNECOLOGISTS

2:00 Panel Discussion—Urological Problems in General and Gynecologic Surgery

Chairman: A. Waite Bohne, *Detroit, Michigan*
Panel: Harold M. Clarke, *New Britain, Connecticut*
John P. Gens, *Norwalk, Connecticut*
John McL. Morris, *New Haven, Connecticut*

3:30 Meetings of Sections of the Society and Guest Organizations
Section on Anesthesia
Section on Dermatology & Syphilology
Section on Neurosurgery
Section on Orthopedics
Connecticut Society of Pathologists
Connecticut District Branch—American Psychiatric Association
Section on Radiology
Section on Urology
Association of Medical Examiners for Connecticut
Connecticut Chapter, American Physical Therapy Association
Connecticut Occupational Therapy Association
Hezekiah Beardsley Pediatric Club

THE PRESIDENT'S PAGE

HAD it not been for certain disturbing quotations in the February issue of "Nation's Business" and for alarming confidential reports emanating from Washington concerning Forand-type legislation, I would have been of the opinion that The Connecticut State Medical Society, its component county societies, and the several local associations had completed an assigned task well done, and that only a "maintenance dose" need now be administered.

However, the above mentioned unfavorable and changing aspects of the legislative status of organized medicine, coupled with a recent warning from the AMA directly from President Louis M. Orr, would indicate that further activity on our part is very necessary.

Even though most of Connecticut's Senators and Congressmen have returned to Washington fully aware of the interest shown by many of their constituents including doctors of medicine, it would appear necessary to revive and to implement that which we have already done. Adopting the technique of those who would oppose our philosophy, we are forced to employ the art of repetition, for skill is stronger than strength.

Every representative of every congressional district in this state including the congressman-at-large has been contacted, either by meeting with physicians and community leaders at receptions for legislators or by participating in panel discussions sponsored by medical associations. We are grateful to these legislators for their participation and we are certain that the representative cross-sections of the people to whom they were exposed in these several communities will now know their congressmen more thoroughly, and conversely these congressmen should more fully understand the sense of the thinking elements of their constituents.

Among those serving on these panels and in these audiences, in addition to the congressmen, were community leaders, insurance executives, rank-and-file consumers, labor representatives, hospital administrators, attorneys, dentists, medical and industrial leaders.

We men of medicine trust that the legislators who represent us in Washington, D. C. will bear in mind the gigantic cost of Forand-type legislation, its complete inadequacy to do the job it proposes to attempt, and the fact that those who most need and are now receiving medical care will fail to obtain it through this type of legislation. Let our legislators be reminded further of the unbearable pressures which will be exerted upon them to expand this program, thereby foisting upon the public total governmental control of medicine. The private practice system, thus having been placed upon the sacrificial block, will be forced to give way to an inferior standard of medical care and America will have lost its cherished leadership in one of man's oldest professions.

ELLWOOD C. WEISE, SR., M.D.

CONNECTICUT MEDICINE

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Editorials

Poliomyelitis Vaccines

Almost immediately after the virus of poliomyelitis had been discovered (in 1908), efforts to produce a vaccine against poliomyelitis began. The experimental use in monkeys of both killed and live poliovirus vaccines was reported as early as 1910. Subsequently, over a period of more than 40 years occasional efforts seemed to be on the verge of success but they all failed as far as the production of a safe and practical vaccine was concerned. In 1955, however, the goal seemed to have been reached,—the year which marked the advent of killed Salk-type vaccine. But now it seems that the quest is still on with a new goal: an anti-poliomyelitis vaccine which is easy to administer and 100 per cent effective. This is a high standard to meet and the search may go on for years.

In any event the heartening gains in the control of poliomyelitis which have come about through the use of the Salk-type vaccine are almost certain to continue, although, as with most control programs, techniques are liable to change, and in this instance changes may concern ways of giving vaccine, and also the kinds of vaccines which will eventually be recommended. With the possible concept of live poliovirus vaccine in the foreground, decisions must soon be made as to whether the killed vaccine is, and will continue to be the best and only prophylactic agent; or whether it will be replaced by a live poliovirus vaccine; or whether it is conceivable that some sort of combination of the two might be used. The ultimate aim is, and has been all along of course, to reduce paralytic poliomyelitis to the *lowest possible minimum.*

Since 1955, the formalinized (killed virus—Salk-type) has been the only vaccine approved as a method for the prevention of paralytic poliomyelitis in the United States. Campaigns to extend its use are distinctly in order. The antigenic capacity of the killed-vaccine is improving. Current estimates of its efficiency, as documented in the record of the past four years, show that a marked reduction in the number of cases of paralytic poliomyelitis has taken place in the United States. Nevertheless, the record still leaves something to be desired. Troublesome epidemics of poliomyelitis occurred in certain U. S. cities in 1958 and 1959, the latter having been a relatively bad year with more than 5,000 paralytic cases,—as of November 1959. In our own state of Connecticut, New Haven was one of the cities which suffered badly, with a 1959 case rate for poliomyelitis reminiscent of the prevaccinal epidemic years. And yet, before being critical we should recall that the efficacy of the Salk-type vaccine, as administered during the early years of its use (1954-58), never has been rated 100 per cent. Furthermore, the major reason why paralytic poliomyelitis has not been reduced in this country more than it has, is the failure on the part of many to take advantage of the killed vaccine for themselves and for their children. In particular, it has been among young children and infants, and among young adults between 18 years and 40, where the vaccination program has lagged. In the serious U. S. epidemics of 1958 and 1959, most (approximately 75 per cent) of those who contracted paralytic poliomyelitis either had not been vaccinated at all or had been inadequately vaccinated.

In the meantime, and indeed since 1952, interest in a new vaccine has been growing:—the live, attenuated poliovirus vaccine, or more properly— vaccines, for there are three of them. Their history goes back to the beginnings of an extensive search for avirulent polioviruses which might act as immunizing agents. In this search Dr. Hilary Koprowski, at that time an associate of the Lederle Laboratories of Pearl River, N. Y., was a pioneer.[1] Since 1951 a number of candidate strains representing the three different types of polioviruses have been proposed and tried out. The major proponents in these developments besides Dr. Koprowski, have been Dr. Albert B. Sabin[2] of the Children's Hospital Research Foundation, University of Cincinnati Medical School, and Dr. Herald Cox[3] of the Lederle Laboratories.

Perhaps one of the reasons why the idea of live poliovirus vaccine found favor with certain immunologists has been the satisfactory experience with live virus vaccines which has been encountered in the field of veterinary medicine. It is also an acknowledged principle that by and large, a more solid type of immunity can result from an actual infection than from the injection of killed substance into the body. Obviously this last statement needs qualification, because one could continue injecting killed substances into a given person—month after month or year after year, thereby producing a very solid kind of immunity but such a procedure would not be very practical. The problem then in the program for the control of paralytic poliomyelitis is to see, first, whether the domesticated (so-called attenuated) polioviruses now being proposed by Dr. Koprowski, Dr. Sabin and Dr. Cox are safe; and secondly whether they can be relied upon to confer a solid kind of immunity on the person thus vaccinated.

These live poliovirus vaccines which, as far as the U. S. is concerned, are still in a trial stage, are given by mouth instead of by injection. Thus they might serve as agents which should be more easily administered. They will probably be less expensive. However, one disturbing feature is that the live virus vaccine does not always take. Another is, that anyone acutely infected with these attenuated viruses may spread the infection to others in much the same manner that anyone with a cold might infect his intimate associates. Thus, involuntary vaccination might result, and one might argue at some length as to whether this is good, or bad. Some of the arguments might challenge the assumption that the attenuated poliovirus strain chosen for use in the vaccine, had become fixed as far as virulence was concerned. Might it not revert to a more virulent form? If such an event occurred, the domesticated virus might gradually work its way back to being a dangerous virus during the course of a human alimentary tract infection and, as a result of natural human-to-human passage. All one can say at present is, that so far,—this untoward event has not been recorded in many trials where the surveillance has been good. One report, nonetheless, representing work carried out at the Yale University School of Medicine, indicates that attenuated poliovirus excreted in stools can occasionally be shown to have undergone some changes and has become slightly more virulent than that which was fed.[4] However, such viruses are still in that range which designate them as being relatively harmless.

During 1958 and 1959, records of such trials, many of them conducted abroad, have come from such countries as the Belgian Congo, Uruguay, Chile, Colombia, Nicaragua and Mexico. In Europe, trials have been carried out in Holland, England, Finland, Poland, Czechoslovakia, and in 11 of the 15 republics of the U.S.S.R. In the U. S., small trials have been carried out over the past six or eight years in New York State, Ohio, California, Connecticut, and Arizona; and larger ones have recently been reported from Minnesota. But the most extensive and significant of the large scale tests was carried out in 1959 in the Soviet Union. This program now covers about 10,000,000 individuals and plans are under foot to enlarge these to 15,000,000 before 1960. The results so far seem to be satisfactory and among the millions of persons, including infants, children and adults, who have received this vaccine to date there has not been a single unfavorable report.[5]

One may ask here, with justification, why is there any need for a new poliomyelitis vaccine,—if the Salk-type vaccine is successful and will continue to be used, and its antigenic capacity is continuing to be improved? A primary answer to this is that, after all, it is logical that a search for all kinds of improvements in methods of protecting against this serious disease should continue. Nevertheless, we must face the fact that in the United States the Salk-type killed vaccine is the only recognized and official prophylactic agent against poliomyelitis. Its continued and wider use should not only be encouraged but urged. The live poliovirus vaccine should be regarded as something of considerable interest although still in an experimental stage. The present results of the live vaccine *field trials,* some of which have been very extensive, are encouraging—and the trials certainly should continue. What is needed at present with regard to the live poliovirus vaccine is more information before authoritative pronouncements are made.

J.R.P.

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The State Reorganization Program

III

One of the entirely new departments of the State of Connecticut created by the 1959 General Assembly is the Department of Consumer Protection. It is based largely on the former Commission of Food and Drugs, and is headed by the former Commissioner of that Department, Mr. Attilio R. Frassinelli of Stafford Springs. To this base has been added certain inspectional powers and duties formerly vested in the Department of Agriculture, the State Athletic Commission and general supervision and fiscal control of the State Pharmacy Commission.

The new Department of Agriculture, Conservation and Natural Resources retains its powers of inspection over the dairy industry. Approval of brands and packaging for farm products and grading eggs, apples, etc. are to be carried out in consultation between the Commissioners of Consumer Protection and Agriculture. Sole control of the inspection and licensing of slaughterhouses, and state meat inspection, including all "kosher" meat products is given to the Department of Consumer Protection. In this particular field, Commissioner Frassinelli feels that there is room for some improvement.

In section 22 of Public Act 412 the commissioner is given the authority to make regulations governing the slaughter and inspection of animals, including the construction of buildings and pens for the same, sanitation and inspection of buildings, pens, meat and meat products, and such other regulations as in his judgment may be necessary for the protection of the public health and the humane treatment of animals. There has been a lack of uniform standards for the state in respect to these things in the past. It will be one of his objectives for the future to see that such standards are established.

There was a good deal of agitation at the last session of the legislature regarding a bill which would require the use of a particular technique of slaughtering animals, said to be "humane." The commissioner has the power to introduce this in a regulation if he chooses. To give an idea of how many laws and regulations he already enforces in the field of food and drugs, the recent compilation of these in printed form fills 171 pages.

For some years now there has been a joint conference committee of physicians and pharmacists in this state. Although the commissioner of Consumer Protection is invited to the meetings of this Committee, he feels that there might be some advantage to his being a member. Problems in this field which are currently engaging his interest relate to the filling of prescriptions in dispensaries maintained by factories and hospitals. These dispensaries are not now required to be licensed in the same fashion as other commercial pharmacies, yet they may, and in many cases do, dispense considerable quantities of drugs and medications. It is not an absolute requirement that a hospital pharmacy be staffed and operated by a licensed pharmacist, even though the requirements of the hospital accreditation program make it a practical necessity and almost every general hospital has at least one licensed pharmacist working in it. During night shifts and on weekends and holidays nurses on the hospital staff commonly dispense stock medicines, however. This situation seems to the commissioner one which requires some study.

Physicians who dispense from their offices (and who do accumulate some drug samples, often to be given away) may be surprised to learn that the commissioner is empowered to inspect through his agents any drug supplies which they keep in their offices. This power has not been exercised during the tenure of the incumbent as commissioner of Food and Drugs or in his present position. Should any problems arise from the dispensing of medicines which could be considered outdated according to the estimates of the manufacturer on the package, this power might have to be exercised. Inspectors now mark all such boxes of medications as they find to be outdated in licensed pharmacies with a red cross on the box. If they have not been returned for credit by the time of the inspector's next visit, he destroys them.

Commissioner Frassinelli is pleased with the effects of the uniform Hazardous Substances Act which requires that the package of any substance intended for household use shall carry on its label the name of any toxic ingredient, a warning as to the type of danger which might be expected from it, and first aid measures to be applied in brief. These labels are applied by the manufacturer. All the states are working together very well on this problem.

Inclusion of the State Athletic Commission in the Department of Consumer Protection is tacit recognition that professional boxing and wrestling, which are under its jurisdiction, fall more into the realm of entertainment than of sport. Since neither of these activities cut a very big figure in Connecticut, this state has been mercifully free of the boxing scandals which are now plaguing many others. The principal change introduced here has been the elimination of local inspectors for boxing and wrestling. When it was pointed out to the commissioner that examining and attending physicians for these exhibitions are still appointed by the promoters, he acknowledged that this was a weak position which should be investigated.

Analysis of food and drug samples and other materials requiring testing is now carried out for the department by the Connecticut Agriculture Experimental Station, the laboratories of the State Health Department and occasionally by special arrangement with the University of Connecticut. It seems likely that with the present rate of growth of these activities, the department of Consumer Protection may have to establish its own laboratories in the not too distant future.

Two subjects which are of particular concern to the Commissioner at present are the questions of radio and television advertising of foods and drugs and control of food vending machines. Advertising practices are under the scrutiny of the Federal Communications Commission at present, particularly because self-regulation by the television industry seems to be failing to maintain the standards of good taste and honesty which had been previously set. Food vending machines have become a large business, but, similar to restaurants, regulations concerning their operation fall under local health supervision or under the State Health Department. Uniform standards to safeguard the public are very much required.

In substance, this new department in our state government has to do with many things that are of vital interest to physicians both professionally and in their capacities as consumers. The possibilities for future developments envisaged in the enabling legislation and by the commissioner bespeak the greatest cooperation and attention possible from members of our society.

A.J.R.

Arterial Surgery and "Cerebral Apoplexy"

In 1954, Miller Fisher called attention to the fact that involvement of the cervical vessels can produce the clinical picture of "cerebral apoplexy." Gurdjian and Webster in 1958 elaborated on the types of clinical pictures found with this pathological lesion. Since surgeons in many centers have now successfully treated cases of this type, recognition of the condition should be more widespread.

The onset of the clinical picture may be subtle and intermittent, or it may be sudden, rapid, and immediately produce the full picture of a "stroke." In the former situation, there may be blurring of vision or intermittent, and momentary blindness. Headaches, dizziness, and syncope are common and their cause is usually occult. Transient twitching, numbness and limb weakness, or paralysis may occur. Convulsive states sometimes supervene and unconsciousness results.

On physical examination, it is often difficult to ascertain whether the patient's symptoms are referable to a cerebral occlusion or to occlusive disease of the vessels in the neck. When the major vessels are narrowed, patients exhibit reduction in arterial pulses in the neck. A stenosed artery will also produce a bruit easily detected with the stethoscope. Auscultation over the eyeball will often detect this bruit. A flat film of the cervical region may reveal extensive calcification of the vessels. Angiography, which is performed under local anesthesia, will aid in localizing the occlusion and demonstrate its extent. Moreover, the radiographs will show whether the block is partial or complete and whether or not a patent distal segment exists.

With conservative treatment, only the most minor stroke patients make a satisfactory recovery. This constitutes about 25% of patients. Approximately 9% die, while 33% retain residual defects and various degrees of invalidism. Another 33% are reduced to permanent institutional care.[3] It therefore appears that a more vigorous approach to the treatment of this group of patients should be employed, especially since occlusions do occur during adequate anticoagulant therapy. Definitive surgery is applicable to all those with a partial, symptomatic block and to many of those with a complete, symptomatic block. The arteriogram must be the guide to surgical intervention. By-pass arterial grafting is effective, although thromboendarterectomy is usually simpler and the results in most instances are equally good. Local anesthesia is used during the surgery and a temporary shunt employed to maintain the cerebral blood flow. Surgical morbidity and mortality are considerably less than the very high figures for conservative management in this group of desperately ill patients. The maximum duration of occlusion amenable to surgery is still unknown, but successful cases have been done two weeks after the onset of symptoms.

R.I.L.

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THE CONNECTICUT PHYSICIAN'S ART ASSOCIATION
1960 EXHIBITION

Members of the Connecticut State Medical Society, their wives and children will be given an opportunity to exhibit their works of Art at the *Hamden High School, 2040 Dixwell Avenue, Hamden, Connecticut on April 26, 27, and 28th inclusive.*

WORKS ELIGIBLE: Oil, water color, tempora, black and white, etchings, photography, sculpture, and ceramics. Copies may be entered, but must be so labeled.

RECEIVING: All art exhibits will be received by a Committee *at the High School, ONE DAY ONLY, Sunday April 24th, from 11:00 a.m. to 1:00 p.m.* The Committee will be staging the exhibit in the afternoon, so all exhibits must be delivered uncrated by the artist or his agent at Hamden High School before 1:00 p.m. Pictures should be suitably framed and wired for hanging.

FEE: There is a fee of $1.00 for each entry. Two entries allowed per artist. Children's exhibits will be free.

THERE WILL BE FOUR GROUPS:

Children up to 16 years of age—over 16 will be judged with adults.
Beginners up to three years
Advanced over three years
Professionals

LABELS: Fill out in duplicate two labels. Fasten one to each exhibit piece. Mail one together with the $1.00 entry fee no later than April 1st to Mrs. Ernest Rosenthal, 17 Pine Road, West Hartford 7, Connecticut. Be sure to mail on time, so your name will be included in the program.

Exhibits should not be removed until 4:00 p.m. on April 28th, and must be removed by 6:00 p.m. Members of the Art Committee will be present to see that all exhibits have left the gallery. Any that remain after 6:00 p.m. will be removed by Dr. Freiheit to Waterbury, Connecticut, and owners will have to call for them at 85 Grove Street, Waterbury.

This year all members who wish to exhibit should contact Mrs. Ernest Rosenthal for further information and additional entry blanks.

Works will be judged by professional artists whose names are to be announced March 1, 1960.

A special effort will be made to recognize merit in each group relative to the experience of the artist, so it is *IMPORTANT* to fill in the entry blank completely, stating the number of years you have been enjoying this hobby. Professional artists are welcome, and will be judged in the professional class. *The best Physician's entry in the show* will be exhibited at the American Medical Association Meeting in Miami in June. The Connecticut Physicians' Art Association will pay the entry fee, shipping costs, and insurance when an exhibit is sent to the national meeting. Crating, however, must be at the expense of the artist. Any Physician may send his work to the Miami show of the A.P.A.A. on June by joining the A.P.A.A. Application blanks for this purpose may be procured from Dr. John M. Freiheit, 85 Grove St., Waterbury. At the state meeting, the Society can assume no responsibility for loss, damage of any cause whatsoever. Members of the Art Committee or their representatives will be in attendance at the displays throughout the exhibit at the state meeting.

Special Article

The Treatment Of Parkinsonism

Russell N. DeJong, M.D.
Ann Arbor, Michigan

Parkinsonism is a chronic and usually progressive disease of the motor system characterized by tremor, rigidity, and loss of associated and expressive movements. These lead to generalized weakness, bradykinesia, a shuffling gait often accompanied by festination and propulsion, impairment of efficiency of learned motor patterns, and difficulty with speech and writing. Occasionally, especially in the postencephalitic variety, there are abnormalities of ocular movement, sialorrhea, greasy seborrhea, and somnolence. The sensory system and intellect are usually intact. Most classifications list three major types: the idiopathic, with onset between the ages of 50 and 60; the postencephalitic, with onset usually before the age of 40 or 45; and the arteriosclerotic, with onset after 60. Carbon monoxide, manganese, and other toxins may also cause parkinsonian syndromes. Either degenerative changes or postinflammatory lesions in the basal ganglia, substantia nigra, and mesencephalic reticular formation are thought to be responsible for the symptoms.

In a recent, very fascinating little book, James Parkinson's "An Essay on the Shaking Palsy," first published in 1817, has been reprinted.[1] His description of the disease which has been named for him is outstanding in its presentation of careful clinical observation and delineation. In addition, in the same volume, is a detailed biographic account of Parkinson, a man of many interests and activities. Three other essays contribute to the value of the book. Dr. Macdonald Critchley, the editor, reviews the present day concepts of Parkinson's disease; the late Dr. J. Godwin Greenfield brings up-to-date the pathology, stressing the substantia nigra as the important site of involvement; Sir Francis Walshe critically analyzes the clinical aspects of the disease. This book should be of interest to both student and practitioner.

The treatment of Parkinsonism, unfortunately, is largely palliative. Our major attempts to help the patient are directed at relief of the tremor and rigidity. Many drugs have been used, and it is quite characteristic of the disease that certain pharmaceutical preparations, or combinations of them, may be helpful in one case, whereas other drugs or combinations may be of more value in another. Patients with postencephalitic Parkinsonism not only show greater response to drug therapy but can tolerate much larger doses, without side-effects, than patients suffering from the idiopathic or arteriosclerotic varieties.

The principal drugs used in the past were the solanaceous alkaloids—atropine, scopolamine, stramonium, and hyoscyamus. These, probably by sedative action on lower brain centers, control the rigidity to a certain extent and the tremor to a lesser degree. The usual dose of either atropine or scopolamine is 0.4 to 0.6 mg. (1/150 to 1/100 of a grain) orally three times a day; the amount may be gradually increased to tolerance, but must be decreased if side-effects or toxic symptoms appear. Bulgarian belladonna and synthetic preparations of the solanaceous alkaloids, such as Bellabulgara, Vinobel, and Rabellon, have also been used with some benefit. Due to their atropine-like action all of these drugs may cause dry mouth, pupillary dilatation with blurred vision, flushing, and in older persons delirium, confusion, and urinary retention. They continue to be valuable drugs for many patients, but have largely been replaced in therapy by certain synthetic preparations having antispasmodic, anticholinergic, and antihistaminic effects. Consequently, the above named substances are mainly used for patients who do not show response to some of the newer drugs.

The drugs which are most widely used today for the treatment of Parkinsonism are trihexyphenidyl (Artane[2]) and cycrimine (Pagitane[3]). Therapy is usually started with doses three times daily of one to two mg. of the former or 1.25 mg. of the latter in idiopathic and arteriosclerotic cases, but in postencephalitic patients larger doses, namely two to five mg. of the former or 2.5 mg. of the latter, may be used at the onset. The amount can be gradually increased to tolerance. The side reactions and toxic effects are similar to those of scopolamine and atropine, although either nausea or vertigo is not uncommon. Other synthetic preparations may also be of value in selected patients and in those who show little response to the above medications. Cogentin (benztropine methanesulfonate) may be helpful if rigidity is an outstanding symptom.[4] It has a rather prolonged action and is best given only at bedtime or sometimes twice daily. The usual dose is 0.5 mg.

in older patients, and 2 mg. in postencephalitic cases. Parsidol (ethopropazine hydrochloride) may aid in relief of both rigidity and tremor.[5] One should begin therapy with a small dose of this drug (10 mg. three times daily), with a gradual increase to 50 mg. three times daily at the end of one month. Kemadrin (procyclidine hydrochloride) may also be helpful for both rigidity and tremor. One should start with 2.5 mg. three times daily and gradually increase the dose.[6] Inasmuch as the patient with Parkinsonism may show a varying response to drugs, it is often worthwhile to try more than one of the above, either alone or in combination. Because of variability of tolerance and susceptibility to toxic symptoms, dosage must be individualized. With all of these drugs it is important to bear in mind that therapy should be started with small doses and the amount administered is then gradually increased; by doing this it may be possible to avoid side-effects and toxic reactions.

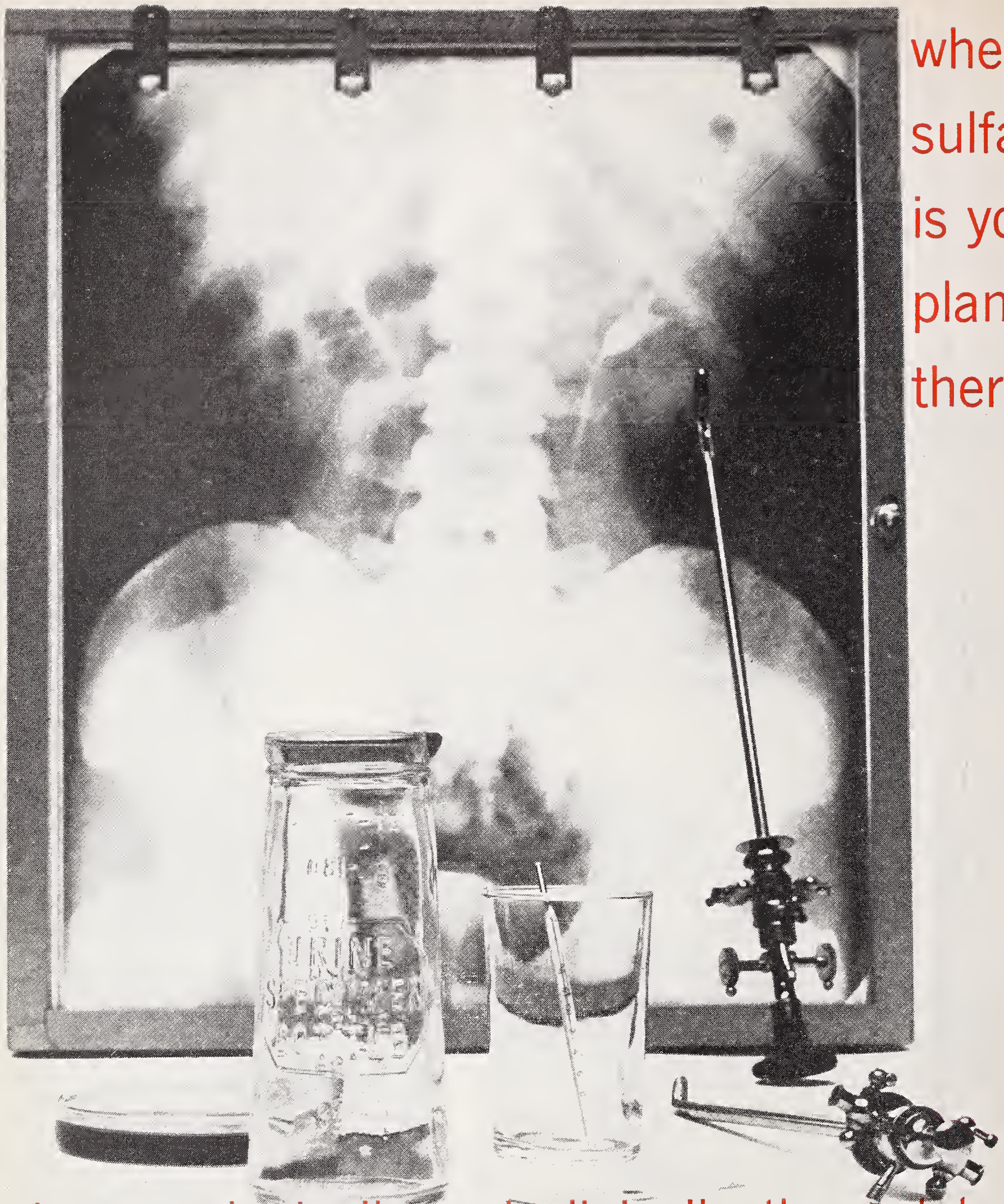
Certain of the antihistaminic drugs, while of doubtful value when used alone, seem to have a synergistic action when given with the above preparations. The two that are used most often are Thephorin (phenindamine) in doses of 25 mg. or Benadryl (diphenhydramine hydrochloride) in doses of 25 or 50 mg. three times daily. Because the latter quite often causes drowsiness in patients with Parkinsonism, it is often best to try the former first. If lethargy, depression, and fatigue are prominent symptoms, amphetamine or dextro-amphetamine in doses of five mg. morning and noon, or a 10 mg. delayed release capsule in the morning, should be added. These may also neutralize the sedative action of the other drugs and stimulate the patient so that motor activity is easier. If the patient is tense or agitated, sedatives or tranquilizers may be necessary. Chlorpromazine, meprobamate, reserpine, or barbiturates in small doses may be tried for daytime relaxation or for their hypnotic action at night. Patients with Parkinsonism, however, and especially elderly ones, often react poorly to barbiturates, and if a sedative or hypnotic is necessary, it is best to use one that does not contain barbiturates. It must be borne in mind, also, that chlorpromazine and reserpine may cause parkinson-like symptoms in some patients, so their routine use in patients who already have the disease should be avoided; if used the dose should be small and the patient should be examined frequently.

Patients with Parkinsonism should be encouraged to be as active as possible, and every attempt should be made to have them continue with their usual occupations as long as possible, even if only on a part time basis. If it is not possible for them to do so, especially if bradykinesia and rigidity are prominent symptoms, physiotherapy becomes an essential part of therapy. It should then be carried out regularly throughout the years to prevent and correct contractures and postural deformities. It should consist of active muscle stretching, resistance exercises, gait and movement training, and correction of faulty posture and balance.[7] If the patient is confined to bed, the physiotherapy may have to be limited to passive range of movement exercises, muscle stretching, and massage. In general, however, simple heat and massage are not of much help.

It is often worthwhile to simplify the life of the patient as far as routine activities of daily living such as dressing, shaving, and eating are concerned. Clothing and shoes should be used that are easy to put on and remove (elimination of buttons and the use of clip ties and shoes without laces). An electric razor should replace the safety razor, if possible. It will be easier for the patient to rise from a chair if he is given one with the front legs a little shorter than the back ones. It must be borne in mind that slowing of activity is one of the symptoms of the disease, and the patient should be allowed extra time for routine tasks and must not be hurried.[8] It is extremely important to encourage the patient to undertake as much activity as possible. If he is no longer able to be gainfully employed, he should be given routine tasks and minor chores to do and be stimulated to take frequent walks or to swim in warm water. Travel and hobbies that interest and amuse the patient are helpful.

Unusual emotional responses to Parkinsonism must be watched for at all times. Many patients fail to adjust well to their illness and are disturbed by the presence of rigidity and tremor. They tend to withdraw into the seclusion of their homes with the onset of conspicuous signs of the disease. The physician should encourage and support any efforts to maintain work and social situations within the bounds of feasibility. Depressive reactions may be noted by failure to take medication regularly, complaints that the drugs cause unusual reactions, and greater incapacity than is in accord with the objective findings. Attempts should be made to counteract such depression by reassurance and suggestion, encouraging more activity and social contacts, interesting the patient in new hobbies, and the administration of more stimulating drugs.

Recent advances in the surgical therapy of Parkinsonism have brought relief to many well-selected patients. At the present time the most significant amelioration of symptoms has followed the production of minute lesions in the basal ganglia and related structures by the introduction of alcohol (chemopallidectomy or chemothalamotomy) or by electrocoagulation, surgery, or the use of ultrasound.[9, 10] Such lesions in the medial portion of the globus pallidus have been most effective for relief of



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KYNEX Tablets, 0.5 Gm., bottles of 24 and 100. Dosage: Adults, 0.5 Gm. (1 tablet) daily, following an initial first day dose of 1 Gm. (2 tablets).

KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz. Recommended Dosage: Children under 80 lbs.: 1 teaspoonful (250 mg.) for each 20 lb. body weight, the first day, and ½ teaspoonful per 20 lb. per day thereafter. For children 80 lbs. and over: 4 teaspoonfuls (1.0 Gm.) initially and 2 teaspoonfuls daily thereafter. Give immediately after a meal.

NEW—for acute G.U. infection AZO-KYNEX® Phenylazodiaminopyridine HCl—Sulfamethoxypyridazine Tablets, contains 125 mg. KYNEX in the shell with 150 mg. phenylazodiaminopyridine HCl in the core. Dosage: 2 tablets q.i.d. the first day; 1 tablet q.i.d. thereafter.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York rigidity, in the ventrolateral portion of the thalamus for relief of tremor, and in the ansa lenticularis or related tracts for either. Many patients have received definite benefit, possibly permanent, from these procedures, but serious complications have also been reported in some cases. Such surgery is most beneficial if the symptoms of disease are predominantly unilateral, but does not give much relief for symptoms such as facial masking, loss of associated movements, or akinesia. It should not be carried out in the elderly, those with evidence of cardiac, vascular, or renal disease, or in patients showing evidence of pyramidal tract involvement or intellectual deterioration. Surgery should never be considered until the patient has had an adequate trial of drug therapy and is willing to assume the risks, expense, and inconvenience of such an approach.

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FROM THE GENERAL MANAGER'S OFFICE

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Director of Public Relations

Josephine P. Lindquist
Assistant to General Manager

CALL

ANNUAL MEETING OF THE HOUSE OF DELEGATES

The 1960 Annual Meeting of the House of Delegates will be held in the auditorium of the Hamden High School, 2040 Dixwell Avenue, Hamden, commencing at 10:00 o'clock in the morning of Tuesday, April 26.

Following luncheon, the House will reconvene for the completion of business.

Ellwood C. Weise, Sr., President
William R. Richards, Secretary

INTRODUCTION OF RESOLUTIONS

Article VII, Section 4, of the By-Laws of the Society provides:

Par. 1. All resolutions to be introduced before the House of Delegates at an annual, semi-annual, or special meeting, except resolutions and recommendations from the Council and resolutions and recommendations that may be contained in committee reports, shall be delivered to the General Manager in time for publication in the official agenda for the meeting at which action is to be taken.

Par. 2. Resolutions and recommendations to be introduced before the House of Delegates at an annual, semi-annual, or special meeting by the Council and recommendations that may be contained in reports of standing or special committees of the Society shall be published in the official agenda for the meeting at which action is to be taken. The official agenda shall be distributed to the members of the House of Delegates at the earliest possible date preceding the meeting.

Par. 3. Resolutions and recommendations which do not meet the requirements of paragraphs 1 and 2 of Section 4 of this article may be accepted for action by a session of the House of Delegates by a majority vote of the delegates present. Such resolutions and recommendations shall be referred at once by the presiding officer to reference committees appointed by him from the membership of the House. These reference committees shall consider the resolutions and recommendations referred to them and shall report, with recommendations, to the House before adjournment of the session.

Delegates to Annual Meeting

The By-Laws of the Society provide that each county association is entitled to one delegate in the House of Delegates for each 35 members in the association or fraction thereof based on the membership as of December 31st of each year. According to this, the quota of delegates from each county association who should attend the Annual Meeting of the House of Delegates which will be held in Hamden, April 26th and the Semi-Annual Meeting in December is as follows:

COUNTY	MEMBERSHIP DEC. 31, 1959	OFFICIAL DELEGATES
Fairfield	857	25
Hartford	1,008	29
Litchfield	129	4
Middlesex	119	4
New Haven	889	26
New London	170	5
Tolland	22	1
Windham	66	2

The Latest Welfare Department Directive

Members of the Society have recently received copies of several different directives from the Commissioner of Welfare relative to certain restrictions which are to be enforced by his department in the matter of paying for trade-name drugs for welfare patients. These restrictions will affect, to some degree, both the physician who writes the prescription and the pharmacist who is called upon to fill it.

The Commissioner hopes that all concerned will cooperate in the effort to cut down his department's drug bill. The members are free to interpret the latest of these directives, dated 15 February 1960, in any way they desire, as individuals or through their county medical associations. There is one very important point about these documents which should be made perfectly clear, however.

In the name of the Connecticut State Medical Society, *no representative or committee* of the Society has "approved" or "endorsed" any directives which have been issued by the Commissioner of Welfare relative to trade-name drugs nor has the authority to do so, nor do these directives necessarily reflect the sense of the advice which may have been offered to the Commissioner by representatives or committees of the Society.

Benjamin Katzin, m.d., Chairman
Joint Interprofessional Relations Committee
Connecticut State Medical Society and
Connecticut Pharmaceutical Association
William R. Richards, m.d., General Manager
Connecticut State Medical Society

Election of Councilors and Alternate Councilors

Councilors and Alternate Councilors should be elected for a term of two years at the annual meeting of the county associations this year in Fairfield, Litchfield, New Haven and Tolland counties. No Councilor or Alternate Councilor elected by a county association shall serve more than three successive terms of two years each in his respective Office, but after a lapse of one term of two years, such Councilor or Alternate Councilor may be eligible for re-election.

Appointment to Committee on Professional Relations

The By-Laws require that the county associations in Fairfield, Litchfield, New Haven and Tolland counties at their annual meeting in 1960 elect a past-president of the association to serve for two years on the state Committee on Professional Relations. No member of the Council of the State Medical Society is eligible for election to this committee and no member shall be elected to serve two consecutive terms.

COUNCIL MEETING

Wednesday, January 27, 1960—12:00 Noon
New Haven Lawn Club,
New Haven, Connecticut

A meeting of the Council, prior to the Special Meeting of the House of Delegates, was called to order by the Chairman, Dr. Feeney, at 12:15 P.M. on Wednesday, January 27, 1960. Present in addition to the Chairman, were Drs. Weise, Gallivan, Richards, O'Connor, Cullen, Scully, Davis, Cornwell, Kennedy, Buckley, Blodinger, Murray, Eddy, Pollock, Grendon, Rentsch, Phillips and Chartier. Absent were Drs. Goldberg, Gens, Schiavetti, Gilman, Gardner and Purnell.

The Chairman pointed out that in his report to be made to the House of Delegates later in the day, he felt obligated to disclose certain matters which concerned the internal operations of Connecticut Medical Service, Inc. and which were therefore confidential and not in the public domain. He stated, however, that if his report were to be factual and complete, he must make mention of these matters.

It was therefore VOTED that the January 27, 1960 special meeting of the House of Delegates be held in Executive Session from beginning to end and it was further VOTED not to exclude members of the Society from attendance.

Reports of various Council members were made in reference to the reaction toward the proposed six resolutions which might be anticipated from the several county associations and other groups. A number of possible substitute resolutions were read for information but no action was taken on any of them.

The Chairman was requested to directly question the delegates as to their knowledge of any irregularity of procedure which would give substance to rumors, reported by Dr. Davis and Dr. Murray, that the Council was conducting the business of the Society by taking actions other than those officially reported in Connecticut Medicine. Dr. Feeney promised to include this question in his report.

There being no other business, the meeting was adjourned at 1:30 P.M.

SPECIAL MEETING OF THE HOUSE OF DELEGATES

On January 27, 1960, the Society's House of Delegates spent more than three hours in examining its relationship with Connecticut Medical Service, Inc., in re-examining certain principles it had been following since 1948 when our Blue Shield Plan had its inception and in making several recommendations to the CMS Board of Directors regarding possible new contract development.

Through a series of six proposed resolutions and the excellent report of its Chairman, the Council presented the House with a number of pertinent facts and figures which have direct and indirect bearing on these important matters and, in return, sought advice and assistance from the House in formulating policy recommendations which would serve the interests of the public, CMS and all members of the Society in an equitable manner.

It was apparent at the outset that individual delegates and groups of delegates were far from unanimous in their approach to the subjects at hand. Debate was both long and heated, yet it was not concluded until each delegate had had an opportunity to express his own views and those of his constituents, as he understood them to be.

Following this extended discussion of the issues, the House of Delegates rose to the occasion in a most commendable fashion and demonstrated, once again, that men of good will can resolve their differences through the democratic process and reach conclusions which are mutually acceptable even if not entirely to their individual taste in every detail.

Most of the resolutions adopted by the House speak for themselves. One key action, however, deserves special mention. In Resolution No. 2, it will be seen that the terms "No more than 50 per cent" and "At least 50 per cent" have been done away with in determining the extent of service benefits coverage. Future considerations of the Society in this area will be confined to recommending income ceilings as a means of guiding the provision of service benefits to CMS members.

The fruits of the delegates' labors are recorded in this issue—. Let us hope that these actions will help to put an end to interminable controversy and that all concerned will benefit from the application of their intent.

W. R. R.

Resolution No. 1—Re: Determinations of Service Benefits Coverage

WHEREAS: Since the adoption of the Report of the Committee on Prepaid Medical Service in 1948, the terms "low income groups" and "working population and their families" have been used in attempting to define the scope of CMS service benefits coverage, and

WHEREAS: These terms have proven to be inherently vague and not capable of exact definition and have, at times, caused varying degrees of confusion and misunderstanding between members of the Connecticut State Medical Society, Connecticut Medical Service, Inc. and the public, and

WHEREAS: All subscribers to CMS contracts are officially called "CMS members," irrespective of income or occupational status, and

WHEREAS: All authorized dependents of CMS subscribers are also officially called "CMS members," irrespective of the subscriber's income or occupational status, therefore be it

RESOLVED: That, hereafter, the House of Delegates of the Connecticut State Medical Society shall use only the term "CMS members" in defining the limits which the House may, from time to time, desire to place on the extent of CMS service benefits coverage.

RESOLVED: That, no matter what services are included, determinations of the level of service benefits coverage shall be expressed *only* in terms of the percentage of CMS members receiving service benefits on a contractual basis, and *not* in terms of dollar payments.

Resolution No. 2—Re: Service Benefits Coverage

WHEREAS: On March 25, 1958, the House of Delegates of the Connecticut State Medical Society defined the limit of CMS service benefits coverage to be "no more than 50 per cent of the working population and their families." and

WHEREAS: On August 24, 1958, the mediators from National Blue Shield Medical Care Plans informed the Council that the continuance of such a narrow definition would thereby make any present or future CMS contract "illegal," if experience showed that it gave service coverage to even 51 per cent of CMS members, and

WHEREAS: In consideration of this information, the members of the Council on that date, by informal poll, indicated to the Blue Shield mediators that, at "a proper time," they would unanimously recommend to the House of Delegates that the phrase "at least 50 per cent" be restored to the definition of the service benefits principle, and

WHEREAS: On December 15, 1959, the joint CMS-CSMS Liaison Committee was informed that the CMS Board of Directors, on that date, had officially expressed "its complete inability to develop a new contract . . . until the 'at least 50 per cent service benefits' principle has been restored. . . .," and

WHEREAS: Despite prolonged investigation and protracted negotiation, the Council of the CSMS and the Directors of CMS, Inc. have been unable to discover the Median Income of Connecticut Families, and

WHEREAS: The Council o fthe CSMS and the Directors of CMS, Inc. have been unable to develop a mutually agreeable formula for discovering the Median Income of Connecticut Families, and

WHEREAS: All authorities consulted by the Council of the CSMS in an effort to discover said Median Family Income are in substantial agreement that no figures are in existence which would make possible the calculation of such Median Family Income, and

WHEREAS: This day the Council, through its Chairman, has recommended to the House of Delegates the restoration of the "at least 50 per cent service benefits" principle, in accordance with the Council's reassurance to the National Blue Shield mediators on August 24, 1958, and

WHEREAS: The same representatives of National Blue Shield Medical Care Plans, Inc. have stated, on January 19, 1960, that it would simplify and clarify the operations of CMS, Inc. if, rather than redefining service benefits levels in terms of percentage, the CSMS would specify the service benefits ceiling in terms of total annual income measured in dollars, therefore, be it

RESOLVED: That the CSMS hereby recommends that the Directors of CMS modify existing contracts and/or develop new contracts for its members which shall provide service benefits to CMS members as follows:

1. Family contracts where the total annual family income is less than $6,000.
2. Joint contracts where the total annual joint income is less than $5,000.
3. Individual contracts where the total annual individual income is less than $4,000.

and it is further

RESOLVED: That this House shall review, and if necessary amend, the income limits for service benefits every two years, or at such lesser intervals as the Council may recommend, and it is further

RESOLVED: That these actions today of this House of Delegates hereby supersede any and all previous actions of this House which might conflict with these resolves, but do not alter in any manner the intent of this House of Delegates to follow the procedure adopted on April 28, 1959 which specifies the method to be used by the CSMS and its component County Associations in approving or disapproving proposed changes in existing CMS Contracts or proposed new CMS Contracts.

Resolution No. 3—Re: Support of Service Benefits Principle

WHEREAS: In "A Statement of the Basic Principles of CMS—1959" it is asserted that "CMS, through acceptance by Participating Physicians of a reduced fee schedule, has been able to provide full payment for physicians' services to CMS subscribers whose family income falls within certain stated limits" (Service Benefits), and

WHEREAS: To be completely accurate, this statement should include not only "CMS subscribers" but also *all* "CMS members"; and not only "family" income but also "individual" and "joint" income, and

WHEREAS: Only members of the Society who have entered into formal agreements of participation with Connecticut Medical Service, Inc. are bound to adhere to the service benefits principle, and

WHEREAS: Many additional members of the Society, who are *not* Participating Physicians, regularly and voluntarily render medical care to CMS members on a service benefits basis, therefore be it

RESOLVED: That the House of Delegates of the Connecticut State Medical Society urge all doctors of medicine in Connecticut to continue to support the service benefits principle, whenever circumstances appear to warrant its application, in order that the intent of the Society to make this contribution to the public welfare through the service benefits principle may be realized.

Resolution No. 4—Re: Improvements in CMS Contracts

WHEREAS: In "A Statement of the Basic Principles of CMS—1959" it is made clear that "CMS: strives constantly to improve and extend its services to the Connecticut public under equitable contracts which are actuarially sound and mutually satisfactory to the subscriber and his physician." therefore be it

RESOLVED: That the House of Delegates of the Connecticut State Medical Society recommend that, through the continuing study and advice of the CMS Medical Advisory Committee, the Board of Directors of Connecticut Medical Service, Inc. seek to make available to all CMS members broader coverage of, and more comprehensive protection against, the costs of the services of doctors of medicine and certain associated services, and be it further

RESOLVED: That the House of Delegates recommend that the CMS Board of Directors strive to accomplish these improvements in all CMS contracts by application of the following general principles:

1. The coverage of more services of doctors of medicine.
2. Optional availability of Indemnity Insurance riders to provide additional coverage for services of doctors of medicine, if practicable.
3. The addition or optional availability of major medical protection.

Resolution No. 5—Re: Official Notification of Actions

WHEREAS: In a series of Resolutions, dated January 27, 1960, the House of Delegates of the Connecticut State Medical Society has outlined certain positive policies which it desires to have followed by the Board of Directors of Connecticut Medical Service, Inc., with respect to the development and sale of existing and possible future CMS contracts, and

WHEREAS: The members of the Society who also serve as members of the Board of Directors of CMS, Inc., have all been designated by the Society as its official representatives on the CMS Board, therefore be it

RESOLVED: That the Board of Directors of CMS, Inc. and all members of the CMS Medical Advisory Committee shall be informed of all Resolutions pertaining to these matters which have on this date been adopted by the House of Delegates, and be it further

RESOLVED: That, in the considered opinion of the House of Delegates, all of the Society's representatives who serve on the Board of Directors of CMS, Inc. or on the CMS Medical Advisory Committe shall be morally obligated to observe and further the intent of these Resolutions in any and all deliberations of CMS, Inc. in which they may participate.

COUNCIL MEETING

Thursday, February 11, 1960—4:00 P.M.

A meeting of the Council was called to order by the Chairman, Dr. Feeney at 4:15 P.M. on Thursday, February 11, 1960. Present in addition to the Chairman were Drs. Weise, Gallivan, Goldberg, Richards, O'Connor, Cullen, Scully, Davis, Gens, Cornwell, Buckley, Blodinger, Murray, Eddy, Pollock, Grendon, Rentsch, Phillips, Purnell and Chartier. Absent were Drs. Kennedy, Schiavetti, Gilman and Gardner.

AMENDMENTS OF MINUTES. The printed minutes of the meetings of January 6, 1960 and January 27, 1960 were approved with one exception. Objection was made to the statement in the minutes of the meeting of January 6th that the Council had approved the proposed six resolutions "unanimously." After some discussion, it was VOTED to amend the minutes to read that this action was taken "without dissenting vote" and to delete the word "unanimously."

It was further VOTED that, in the future, no vote of the Council be recorded as unanimous unless it has been proved to be unanimous by individual count of all members present.

PERMANENT SITE OF ANNUAL MEETING. The General Manager reported that all component county medical associations had approved Hamden, Connecticut, as the permanent site of the Annual Meeting of the Society, with the exception of the Tolland County Medical Association which has expressed disapproval. The Council then VOTED to designate Hamden, Connecticut as the permanent site for the Annual Meeting of the Society except in cases in which another county medical association requests the privilege. Necessary by-law amendments relative to the Committee on Local Arrangements are already being considered.

CONNECTICUT HEALTH LEAGUE. It was VOTED to refer the matter of terms of office for the Society's three delegates to the Connecticut Health League to the Nominating Committee, to be considered in making the nominations for 1960-1961.

CSMS-CHA JOINT CONFERENCE COMMITTEE. It was brought to the attention of the Council that the Connecticut Hospital Association Board of Trustees had not yet acted upon the proposal of the joint CSMS-CHA committee to set up an on-call panel of representatives of the two organizations, which, on request, would help to resolve disputes between members of the Society and the Hospital Association. The Council has approved the plan at its meeting on June 17, 1959 and so notified the CHA Board on June 24, 1959. In view of the importance of this matter, as evaluated by the Council, it was VOTED to urge the Connecticut Hospital Association to take action on the proposal of the joint CSMS-CHA committee at the earliest possible time, and preferably before the April 26, 1960 Annual Meeting of the Society's House of Delegates.

COMMITTEE ON MEDICAL ECONOMICS AND INSURANCE. Several matters referable to the powers and functions of this committee had been submitted to the Council for clarification by its Chairman, M. David Deren of Bridgeport. One of these matters referred particularly to the new $10,000 Group Major Medical Plan now being offered for sale to members of the Society. It was VOTED that the General Manager be directed to write a reply to Dr. Deren's communication, indicating that the Committee on Medical Economics and Insurance is requested to pursue its studies in these fields and report frequently to the Council the results of its deliberations; and that the terms and premiums associated with the mentioned new $10,000 Major Medical policy currently being offered to members of the Society should be evaluated and reported on by the committee, if desired, since this matter definitely falls within its province.

CONNECTICUT MEDICAL SERVICE, INC. Dr. Feeney reported on certain correspondence between himself and Mr. John Castellucci of National Blue Shield Medical Care Plans which had reference to the five resolutions adopted by the House of Delegates on January 27, 1960. Dr. Feeney stated that in a letter to Mr. Castellucci, dated February 5, 1960, he had given what he considered to be an accurate interpretation of the deliberations of the House and that he forwarded copies of this letter to the CMS Directors for distribution to the Board members at their meeting of that same day. He noted that, as yet, he had not received any replies to his letter.

A motion passed by the CMS Board of Directors on February 5, 1960 was read. The text of the motion is as follows:

"It was duly moved, seconded and voted: That the Board of Directors of Connecticut Medical Service, Inc. notify the Connecticut State Medical Society House of Delegates and the Council of the Connecticut State Medical Society that the legal duties of Directors preclude commitments to problems that the Board may face in discharging its public trust and therefore rejects the implications of resolution No. 5 as passed by the House of Delegates on January 27, 1960."

The motion was received as information and no action was proposed or taken on it.

A letter from Michael A. Dean, Bridgeport, was read in full. Dr. Dean wished to bring to the attention of the Council the fact that, as outlined in the CMS motion of February 5th, he could not abide by the implications of Resolution No. 5 recently adopted by the House of Delegates. He suggested that the Council might wish to reconsider his nomination to the CMS Board in the light of his communication. Since no member of the Council felt it to be necessary, no action was taken as to Dr. Dean's nomination. It was VOTED, however, that the Chairman of the Council and the General Manager arrange to meet with Dr. Dean for the purpose of discussing with him the intent of the fifth resolution.

Referring to the January 27, 1960 meeting of the House of Delegates, it was VOTED that the Council commend the Speaker of the House for his exemplary conduct in presiding over the meeting.

AMA WOMAN'S AUXILIARY RE: HEALTH CAREERS. A request had been received from the Woman's Auxiliary to the AMA, indicating a desire for the Society to participate in a discussion on Health Careers Programs to be conducted at Miami in June. Mrs. Edward P. Allen, New Haven, is to attend on behalf of the Connecticut Auxiliary. It was VOTED that the Chairman, with such assistance as he may require, prepare a suitable report on the Society's activity in this field and submit this report to Mrs. Allen for inclusion, if she desires, in her presentation at Miami.

UNITED STATES PHARMACOPEAL CONVENTION, INC. In response to a second request to send a delegate to the U.S. Pharmacopeal Convention, it was VOTED to sustain the previous action of the Council which was *not* to send a representative of the Society to this meeting.

COMMITTEE ON THIRD PARTY PAYMENTS. It was VOTED to approve a recommendation of the Committee on Third Party Payments which reads as follows:

"In answering a request for medical information from an insurance company, it is proper for the physician to charge a reasonable fee commensurate with the time and effort involved.

It is requested by the Committee that in the event of acceptance of this recommendation by the Council, this recommendation be published in the Connecticut State Journal and a copy be sent to the Health Insurance Councils."

In regard to a further request of the same committee that it be enlarged and reorganized as previously recommended, it was noted that this matter had been referred to the Sub-committee to Study and Revise the By-laws on June 24, 1959. The hope was expressed that the Sub-committee might be able to recommend suitable by-law revisions relative to the Third Party Payments Committee in time for action by the House of Delegates at the annual meeting.

THOMAS PATRICK MURDOCK TRUST FUND. The Council was informed that final plans had been made to dissolve the Thomas P. Murdock Trust Fund and that any money remaining after dissolution would be divided equally between Yale University and the University of Connecticut.

SENATE BIL. 1023. It was VOTED that the Chairman communicate to the proper state legislative body the Society's position supporting the principle of requiring periodical physical examinations of people over 70 years of age who wished to continue to operate motor vehicles. This endorsement of the bill had been made by the Committee on State Legislation on February 25, 1959.

ELECTION OF STUDENT MEMBER. The following student member was elected: Herbert Morris Dean, 79 Mountain Avenue, New London, Tufts Medical

School—Class of 1963, Pre Med—Columbia College, Parent: Louis Dean.

FORAND-TYPE LEGISLATION. It was VOTED to approve the following resolution relative to Forand-type legislation and to transmit the resolution to the component county associations for consideration and possible action at their annual meetings, as well as to allied agencies, legislators and the press for information purposes.

RESOLUTION RE: FORAND-TYPE LEGISLATION

WHEREAS: Despite substantial evidence to the contrary, certain political forces continue to represent that a segment of our over-65 population is not receiving adequate medical care, and

WHEREAS: These forces consistently ignore the tremendously effective current progress being made in the voluntary health insurance field and the provisions for medical care of the needy already in existence at state and community level, and

WHEREAS: It is a matter of public record that some of these forces aspire to impose upon all Americans a costly and inefficient system of compulsory, government-controlled medical care, and

WHEREAS: The total problem of indigency which has been brought on, in part, by government-sponsored inflation, is much less pressing in the field of health care than in any other area of subsistence, therefore be it

RESOLVED: That we, as Connecticut physicians, refute the contention that any people of any age, who need and seek medical care, are being denied it for any reason whatever, and be it further

RESOLVED: That we, as Connecticut physicians, are unalterably opposed to socialized medical care for any segment of the population, and be it further

RESOLVED: That we, as Connecticut physicians, deplore all representations, promises and actions which are designed to use the provision of medical care as a political issue, and be it further

RESOLVED: That we, as Connecticut physicians, urge our legislators to initiate and support measures which will curb inflation and deficit spending, restore to Social Security beneficiaries the unrestricted freedom to work without losing their benefits, and thereby make it possible for the government to *take less away* from the people instead of promising to *give them back more*, and be it further

RESOLVED: That we, as Connecticut physicians, call upon all legislators and candidates for public office to fully inform the people of the dangers inherent to Forand-type legislation—the potential abuse and political exploitation, the concealed abrogation of free choice of doctor and hospital, the staggering cost and the ultimate deterioration of the present quality of American medical care, and be it further

RESOLVED: That we, as Connecticut physicians, call upon all individuals and agencies which have confidence in the free enterprise system to join with us in urging our legislators to vote against all Forand-type legislation which, while proposing to needlessly sacrifice the best system of medical care and the most effective system of voluntary health insurance in the world, will most certainly fail to serve its alleged purpose.

RUSSELL FUND. It was VOTED to authorize the expenditure of not more than $60 from the Russell Fund to purchase shelving and it was further VOTED to direct the General Manager to purchase a coffee-maker for use at Council meetings and on other occasions.

JOINT CONFERENCE COMMITTEE WITH PHARMACEUTICAL ASSOCIATION. It was reported that the Joint Interprofessional Relations Committee of the CSMS and the Connecticut Pharmaceutical Association, the Chairman of the Advisory Committee to the Commissioners of Welfare and of Finance and Control, Dr. Weise, Dr. Richards and others had met with the Commissioner of Welfare and his staff at the Waverly Inn on February 10, 1960 for the purpose of discussing Mr. Shapiro's directives which relate to the payment for trade-name drugs for welfare patients. Dr. Richards reported that the sense of the meeting was that the effort to reduce the cost of drugs to welfare patients should be made on a voluntary basis, and that it had been suggested to the Commissioner that he make an appeal for the cooperation of pharmacists and physicians in substituting lower-cost, high quality, generic-name drugs for trade-name drugs whenever possible. It was pointed out that representatives of the Society had only advised the Welfare Department in these matters since they had no authority to approve any plan until it had been considered and acted upon by the Society.

AMEF RESOLUTION RE: ANNUAL ASSESSMENT. It was VOTED that this item be placed on the agenda of the annual meeting of the House of Delegates for consideration of the action of the component county associations, if available at that time. It was felt that the Council should merely transmit this resolution to the House without necessarily indicating approval or disapproval.

DATE OF NEXT MEETING. It was VOTED that the Chairman and the General Manager set the date for the next meeting of the Council.

The meeting was adjourned at approximately 6:45 P.M.

Connecticut Conference On Athletic Injuries

Saturday, April 2, 1960

Francis Maloney High School, Meriden

(Exit 67, Wilbur Cross Parkway, turn north on East Main Street, proceed short distance to Gravel Street, turn right to high school)

9:30 Registration

9:50 Welcoming Remarks

William J. Sanders, Ph.D., commissioner, Connecticut State Department of Education

Franklin M. Foote, M.D., commissioner, Connecticut State Department of Health

10:00 The Purpose of This Conference

John J. F. Ruddy, Ansonia; president, Connecticut Interscholastic Athletic Association

10:10 Setting a Standard for Medical Care in a High School Athletic Program

Allan J. Ryan, M.D., Meriden; chairman, Committee on the Medical Aspects of Sports, American Medical Association

10:30 Problems of Injury in a High School Athletic Program—Panel Discussion

Responsibility of the Coach
Robert McKee, West Hartford; Conrad High School

Responsibility of the Physician
Max Novich, M.D., Newark, New Jersey

Responsibility of the Trainer
Steve Witkowski, head trainer, Wesleyan University; Trainer for the U. S. Olympic Team, 1960

Responsibility of the Administrator
Alexander A. McKimmie, Jr., Hartford

11:30 Question Period with Panelists

12:00 Luncheon and Viewing of Exhibits

1:45 Greetings from Connecticut Coaches' Association

Thomas Monahan, Bristol; president

1:50 Practical Application of the Principles of Injury, Prevention, and Treatment

Joseph L. Hetzel, M. D., Waterbury; chairman, Advisory Committee on School Health, Connecticut State Medical Society

2:00 Prevention and Treatment of Knee Injuries

Thomas F. Quigley, M.D., physician to Harvard University Football Team

2:30 Prevention and Treatment of Ankle Injuries

James M. Carey, M.D., Waterbury

3:00 Prevention of Injury in High School Athletics—Panel Discussion

Pre-season Examination by the Physician
George Cushman, M.D., Woodbury

Requirements for a Training Room
Richard Wargo, head trainer, University of Connecticut

Protective Equipment
O. W. Dayton, head trainer, Yale University

4:00 Question Period with Panelists

4:30 A Look toward the Future

Allan J. Ryan, M.D.

Connecticut State Medical Society
160 St. Ronan Street
New Haven 11, Connecticut

My check for $2.00 is enclosed for registration and luncheon at the Connecticut Conference on Athletic Injuries, Saturday, April 2, at the Francis Maloney High School, Meriden.

Signed: .... M.D.

Office Address: ....

....

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Clinical Medicine

CLINICAL PATHOLOGICAL CONFERENCE

ST. VINCENT'S HOSPITAL
BRIDGEPORT

Conducted by ARTHUR GINZLER, M.D.

JUNE 8, 1959

Discussion

DR. MARVIN GARRELL: The pertinent facts in the history of this case are that first, the patient was an alcoholic. He had been admitted from the Fairfield County jail because of steadily increasing jaundice, and weakness over a one month's duration. No particular mention was made regarding weight loss. The past history was not significant. As is often the case, the clinician is forced to resort to the laboratory findings to unravel the etiology of the jaundice. In a patient with this history, certain diagnostic possibilities come to mind. These are Laennec's cirrhosis, common duct stone, infectious hepatitis of some sort, either viral, or due to bacterial or protozoan parasites. In addition, a malignancy of the liver as well as chronic relapsing pancreatitis are further possibilities. The total serum bilirubin is 17 mgms. with a direct of 7.6 mgs. which would indicate a considerable degree of obstructive jaundice, especially when coupled with the history of clay colored stools. This direct reacting bilirubin showed a steady increase being 23.6 mgms. shortly before death.

Although the urine showed urobilinogen in small amounts upon admission, this was not present on the second urine specimen obtained on the eleventh hospital day. The alkaline phosphatase is mildly elevated, less so than one would expect in obstructive jaundice. Against hepatocellular disease is the normal cephalin flocculation time and the normal serum prothrombin time. Although the BSP is slightly elevated, this determination is of little value in the presence of jaundice.

During the hospital stay there was a steady increase in leukocytosis ranging from 9,300 on admission to 17, 800 before death. In both instances there was a marked preponderance of neutrophils.

The shadow in the right lung is quite interesting. Although hemoptysis is mentioned as a finding before death, the shadow does not appear typical of pulmonary infarction. A metastatic tumor remains a distinct probability as does a suppurative lesion of the lung. In summary then, this 58 year old alcoholic presented with a picture of obstructive jaundice, an unresolved pulmonary lesion and a steady downward course with death occurring five weeks after admission.

My diagnosis in this case is a hepato-carcinoma. These lesions are common in alcoholics that are cirrhotics. In fact, 80 per cent of the reported cases have been discovered in male cirrhotics. Sixty per cent of these also metastasize to the lung, accounting for the shadow in the right lower lobe. The absence of a grossly nodular liver is not remarkable. These lesions frequently develop into one concentric mass, causing generalized hepatomegaly, or the nodules are very small and not easily palpable.

DR. JOHN S. PIRO: Would you have advised laparotomy in this case?

DR. GARRELL: Yes, I would have.

DR. PIRO: The pulmonary lesion, although not typical of pulmonary infarction, could be. I feel that carcinoma of the pancreas with hepatic and pulmonary metasteses must be considered.

DR. V. CAVALIERE: I have seen several patients with Laennec's cirrhosis follow this course.

DR. G. MOLNAR: I feel that carcinoma of the common bile duct is the best possibility with Laennec's Cirrhosis second.

DR. S. DESCHAMPS: Although hepato-carcinoma may cause hepatomegaly, jaundice is rare with this lesion. Because of the man's background, acute infections must be considered. Weil's disease is a remote possibility but the absence of fever weighs against this. Jaundice is occasionally seen with a hepatic amoebic abscess and the right lung shadow could be a metastatic abscess. The alkaline phosphatase is only 13 units whereas in obstructive jaundice one should expect an elevation of over 40. Nevertheless, I feel cholelithiasis with a stone blocking the common duct is a likely diagnosis.

DR. M. ANTELL: The lesion in the lung appears to be a necrotizing malignancy.

DR. MALYZSKA: Was the patient a heavy smoker?

DR. ARTHUR GINZLER: There is no mention of this in the history.

Dr. William Curley: Could this have been a bronchogenic carcinoma metastasing to the liver?

Pathologic Report

Dr. Arthur Ginzler: External examination of this patient revealed that his chest was actually rather hirsute, thus casting some doubt upon the diagnosis of Laennec's cirrhosis. Examination of the abdomen revealed many large retroperitoneal lymph nodes. Several metastatic nodules were found to surround the common duct. Several of these extended into the pancreas. The stomach revealed multiple gastric erosions.

The pièce de résistance obviously is the right lung which contains a large, typical, oat cell, bronchogenic carcinoma arising from the lower lobe bronchus.

Bronchogenic carcinoma may simulate many illnesses. In our opinion, it is a diagnosis that is frequently missed since the metastases often produce varied syndromes. The chest films actually do not show an actual tumor. What is seen in x-ray is either pneumonitis or atelectasis, which occurs because of the tumor's interference with normal lung physiology.

Now, there is something that could be added to the protocol. Shortly before death a large axillary lymph node was biopsied and found to contain a metastasis of this tumor. This is why no laparotomy was performed.

Final Diagnosis

Bronchogenic Carcinoma, oat cell type, with metastases to abdomen, lymph nodes, and causing obstruction of the common bile duct.

NUTRITION

NUTRITION AND DENTISTRY, A TWO WAY STREET

Gilbert LeVine Mellion, d.d.s.*
Chairman of Connecticut Nutrition Council
Ruth Berman Mellion, b.a., *Dietitian*

The purpose of dentistry as a profession is to maintain the health of the teeth and adjacent structures for mastication, speech and appearance.

The tissues of the oral cavity (including the teeth), like all tissues of the body, profit from good nutrition, but there are special considerations that are often ignored.

For the purpose of organization we will divide this paper into six parts.

1. The Pregnant Patient

The potential mother should be assured that she will not lose a tooth for every child she has, and that calcium will not be withdrawn from her teeth during pregnancy. She should be encouraged to brush, or at least rinse her teeth thoroughly after vomiting, so that the hydrochloric acid of the stomach does not stay in contact with the teeth for any length of time.

The use of a child size toothbrush, with a small head, should be suggested to those women who find the regular brush causes gagging, which discourages them from brushing their teeth.

2. Refined Sugars and Dental Caries

As pointed out in the editorial in the Oct., 1953 issue of the Journal of the A.D.A., although the last word has yet to be written on the etiology of dental caries, it has long been agreed that the consumption of sugar, plus bacterial fermentation are implicated in the process. This implication is adequately supported by a joint report of the Councils on Dental Health and Dental Therapeutics of the A.D.A., "Sugar & Dental Caries" in the same issue of the Journal.

Available information indicates that diet may affect the structure of the unerupted teeth, but the use of vitamins and minerals in amounts in excess of those required for a balanced diet has not yet been shown to have any favorable relation to good dental health.

Dental research with radioactive materials has changed some of our basic nutritional concepts. For example, there is evidence that the diet is capable of changing the enamel structure of even the erupted tooth. But it has not been determined whether this minimal change in the enamel is brought about from the blood supply within the tooth, or from the saliva bathing the enamel. However, clinically, for most young persons, the caries rate appears to have a close correlation with the intake of concentrated sweets. This does not imply that a balanced diet does not also have some degree of influence upon caries. It may well be that the caries rate would be higher, if the sweets were taken in the presence of a poor nutritional status.

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* Dr. Mellion is in private practice in Rocky Hill and represents the dental profession on the Advisory Committee on Nutrition, Connecticut State Medical Society.

For the majority, the attempt at caries control must include a reduction of concentrated sweets such as candy, pastry, frequent fresh pieces of chewing gum, sweetened beverages, syrups, jellies and the like. In addition to their high sugar content, such foods are usually sticky and have a tendency to cling to the teeth and resist tooth-brushing.

Patients, particularly the younger ones, should be encouraged to eat self-cleansing foods such as apples, celery, raw carrots, and over-dried toast. As a matter of fact, animals and ancient man kept their mouths clean through the action of detergent foods. It is because modern man lacks sufficient cleansing foods in his diet, that he has had to resort to artificial means to keep his mouth clean by use of a toothbrush.

It is unfortunate that the mothers of young patients misinterpret the lollipop reward, given by some pediatricians, as approval and endorsement of a continuous diet of lollipops. Too often the dentist trying to encourage a reduction in concentrated sweets, is faced with the comment, "But my pediatrician gives Susie a lollipop." In fairness, it should be said that we even have a few dentists who do not realize that their lollipop reward is being misinterpreted. Coloring books and inexpensive toys would be more suitable awards.

3. *Oral Manifestations of Nutritional Deficiencies*

The specialized tissues of the oral cavity are often the first areas to be affected by nutritional disturbances, and the dentist who sees his patient regularly is in a position to notice these changes and if need be to seek the cooperation of the physician.

In general, the developmental defects of the hard dental structures are most often associated with disturbances in vitamins A and D, or the fat soluble vitamins, whereas deficiencies associated with abnormalities in the soft oral tissues are due to deficiencies of the water soluble vitamins B and C.

The following is a brief listing of some of the oral manifestations of nutritional deficiencies which should arouse suspicion and encourage further investigation on the part of the dentist or the physician.

LIPS

(a) Fissuring of the vermilion border extending to the adjacent skin, particularly if it occurs in the summertime.

(b) Cheilosis, or angular stomatitis, which is a honey colored crusting at the angle of the mouth, usually seen where there is a predominating riboflavin deficiency. In the older patient, a differential diagnosis must be made with loss of vertical dimension, resulting from old dentures that have not been refitted.

TONGUE

(a) Fusion of the papillae of the tongue which can be demonstrated by rolling a wooden applicator stick over the dorsum of the tongue.

(b) Atrophy of papillae seen as shiny bald areas.

(c) A burning sensation or pain in the tongue.

GINGIVA (soft tissue hugging the necks of the teeth)

(a) Before a diagnosis of scurvy is made based on no history and bleeding gums, recommend a thorough scalding to remove tartar followed by polishing the teeth.

4. *Nutrition in Periodontia*

(diseases of the soft tissues and bone immediately surrounding the teeth)

Based on research carried out to date, it has been found that nutrition most significantly alters the hard structures of the teeth during their formation, while the effect on the pulp and periodontum (bone and soft tissue immediately surrounding the teeth), can take place any time during life.

Dr. Glickman's experimental work offers evidence of the part that underlying systemic factors (of which nutritional deficiency may be a part), play in the etiology of diseases of the gum and underlying bone. In other words, the greater the systemic unbalance the greater the periodontal destruction, in the presence of similar local factors.

5. *Nutrition in Oral Surgery*

After minor operative procedures, there is for practical purposes, no special problem of nutritional therapy in those patients who have been in good health and have a good state of nutrition. But where the patient is exposed to more extensive oral surgery, it is well to keep in mind that those with deficiencies require a longer time for convalescence than those whose nutrition has been maintained. Also, the state of nutrition plays an important role in the healing of wounds. Adequate amounts of proteins, vitamins A, C, and riboflavin are especially desirable.

Many candidates for multiple extractions have been on self-imposed restricted diets because of uncomfortable teeth, and attempts to correct the diet are not always successful. Thus it is felt supplementation is indicated. Proteins can readily be increased by adding two tablespoons of powdered milk to a glass of whole milk, and mixed thoroughly. If the patient takes three or four glasses of milk, so supplemented daily for several weeks before and after surgery, he will be assured against protein deficiencies.

6. Nutrition in Prosthetics

Supplementing the diet of patients being prepared for full denture prosthesis is indicated particularly where there is a history of restricted diet, due to insufficient teeth to masticate a diversified diet.

Along with the supplementation, the patient should be encouraged to improve the basic diet by the use of junior chopped baby food and various casseroles. These patients should also be advised to drink at least three glasses of milk per day which will assure them of an adequate supply of calcium.

Such nutritional considerations will not only assure the patient (where absorption and utilization is normal), of the advantages of general good nutrition, but will also afford nutritionally healthy oral tissues that will better tolerate the prosthetic appliance.

A patient without teeth can survive, but edentulous persons, soon lose their enthusiasm for a "mush" diet. Of course, there is always the heroic one who sans teeth can "gum" a steak, but he is not a delight to behold. In fact, if you place a mirror in front of him while he chews, the observation of his chin almost touching his nose x number of times per minute will usually be sufficient encouragement for him to ask for dentures, if there is any pride left.

Summary

1. The oral cavity is an important part of the digestive system, and sufficient comfortable teeth permits the patient to partake of a more diversified diet.

2. Since concentrated sweets are implicated in the etiology of caries, a reduction in the intake of sweets, particularly in the young, is indicated.

3. Changes in the soft tissues of the mouth, though not definitive, should arouse suspicion and encourage further investigation on the part of the dentist or the physician.

4. Patients who are candidates for extensive oral surgery or full denture prosthesis should be given nutritional consideration since they have usually been on self-imposed restricted diets due to painful or insufficient teeth.

5. An exchange of qualified speakers between medical and dental societies would do much toward encouraging consultation between the two professions to the ultimate benefit of the patient.

This article prepared at the request of and approved by the Sub-Committee on Nutrition of the Committee on Public Health of the Connecticut State Medical Society.

ANNUAL MEETING

OF

CONNECTICUT STATE MEDICAL SOCIETY

APRIL 26, 27, 28, 1960

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Around The State

Yale School of Medicine to Celebrate Sesquicentennial

The Yale School of Medicine will celebrate a century and a half of existence on October 28 and 29 of this year. The occasion will be marked by meetings, exhibitions and addresses suitable to the occasion. Among a notable group of guest speakers will be Sir Howard Florey of Oxford England. Complete details of the program will be announced later.

It was in October 1810 that the Connecticut General Assembly granted a charter to Yale College for the establishment of the Medical Institution of Yale College and the fifth medical school in the United States came into being. Unlike its predecessors the impetus came chiefly from within the college and not from a group of outside physicians. The plan for Yale to become a university probably antedated that of any of our colleges for it was talked about as early as 1750 during the administration of President Thomas Clap. Later, President Ezra Stiles, formerly a tutor under Clap, outlined in considerable detail his *Plan for a University*. Full fruition came under President Timothy Dwight in the schools of medicine, theology and law, in that historic sequence.

The first medical faculty at Yale was a notable one, containing Eneas Munson, foremost authority on Materia medica, Nathan Smith and Benjamin Silliman, still counted among Yale's greatest, Eli Ives and Jonathan Knight, leaders in medicine and each to become President of the American Medical Association. From the start the Connecticut State Medical Society was a partner in the enterprise and worked in close cooperation all during the first half century of the school's existence.

Other events associated with the sesquicentennial celebration will take place during the academic year 1960-61. These include an exhibition of medical art at the Yale Art Museum and a scientific meeting to be held in conjunction with the dedication of a new medical school auditorium.

Hartford County

Irving H. Krall of Hartford was named 1960 vice president of the allergy section of the Connecticut State Medical Society at a recent meeting of the group in New Haven. New president and secretary are: R. Edward Vioni of Bridgeport, and Marvin Mogil of New Haven.

Three young local doctors have received $11,000 in grants from the Hartford Heart Association to help support their work for the coming year. They are Robert J. Huszar and William E. Hart, both of St. Francis Hospital and Peter Stoughton of Hartford Hospital. This brings to $53,000 the association's allotments to research projects. All but $19,000 was granted to local workers. Dr. Huszar received $4,000 for study in the St. Francis cardiovascular section—a purpose similar to that for the $2,000 given Dr. Hart. Dr. Stoughton's $5,000 grant is for study of the pulsations of the main pulmonary arteries in relation to congenital heart defects. Dr. Kenneth F. Brandon is president of the Hartford Heart Association.

New Haven County

The new officers of the New Haven Medical Association elected at the meeting held in February are: Luca E. Celentano, president; Bernhard A. Rogowski, vice president; Frederick H. Treader, recording secretary; Elliott S. Brand, finance secretary; Harvey W. Kaetz, chairman, literary committee; Charles L. Corradino, chairman, finance committee; and Angelo Gentile, house committee member for three years.

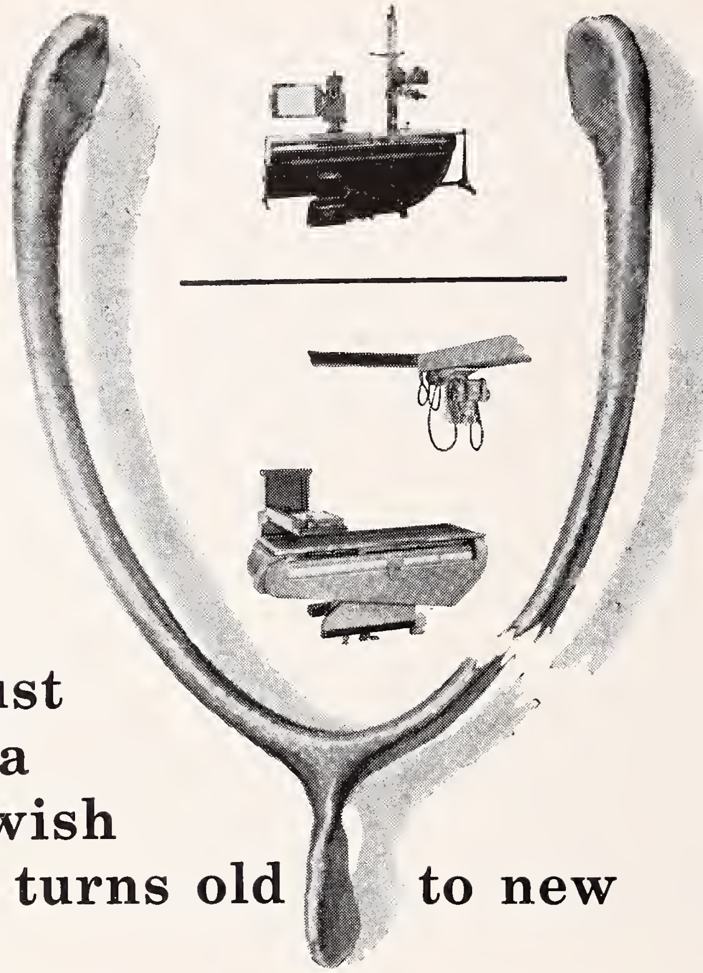
Fairfield County

Ellwood Weise, President of the Connecticut State Medical Society, spoke at a meeting of the Bridgeport Hospital School of Nursing Alumnae Association recently.

The Doctor's Office

Henry A. Jolley, M.D., announces the opening of his offices for the general practice of medicine at 206 Main Street, Middletown.

Vincent J. Morrissey, M.D., announces the opening of his office for the general practice of medicine at Route 58, Redding Ridge.



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Annual Meeting

The Woman's Auxiliary to the Connecticut State Medical Society will hold its annual meeting on April 27th at the New Haven Country Club. Doctor Alfred Bloomberg, Commissioner of Mental Health of the State of Connecticut will be the speaker. Mark your calendar now to save the date.

Notes

The annual meeting of the New Haven County Auxiliary will be held at the Waverly Inn on Thursday, March 17th. The program will include a fashion show of Spring Hats.

The third regular meeting of the Board of the Woman's Auxiliary was held at the home of the President, Mrs. Walter Nelson, in Cromwell on Monday, February 22nd.

Any auxiliary member wishing to submit material for use on this page or in the QUARTERLY should submit it by April 1st for inclusion in the next issue.

Artists Attention

Exhibits will be welcomed from members of the Connecticut State Medical Society, members of the Woman's Auxiliary, and their children for the Annual Exhibit of the Connecticut Physicians' Art Association. It will be held April 26, 27, and 28th in Hamden High School, Hamden, Connecticut, in conjunction with the Annual Meeting of the Connecticut State Medical Society. Oil, water color, tempera, pastel, black and white, sculpture, ceramics, etchings and photography may be submitted. Pictures should be framed, ready for hanging. Entry blanks have been mailed in Feb. to former exhibitors. Additional blanks and further information regarding hanging date and entry fee may be obtained from your county chairman.

John M. Freiheit, M.D., 85 Grove Street, Waterbury, President, Connecticut Physicians Art Assotion.

Mrs. Ernest Rosenthal, 17 Pine Rd., West Hartford, Co-Chairman.

The following are Co-Chairman in each County. They may be of assistance in transporting entries to the show.

Mrs. Ernest Rosenthal, 17 Pine Road, West Hartford—State Chairman and Hartford County.

Mrs. Saul Melzer, 316 Sailors Ave., Bridgeport—Fairfield County.

Mrs. Lawrence Harris, 34 Union St., Thomaston—Litchfield County.

Mrs. Elliot Brand, 145 Cleveland Road, New Haven, New Haven County.

Mrs. Albert Gosselin, R.F.D. No. 4, Lisbon—New London County.

Mrs. Therman L. Walron, R.F.D., North Grosvenordale, Windham County.

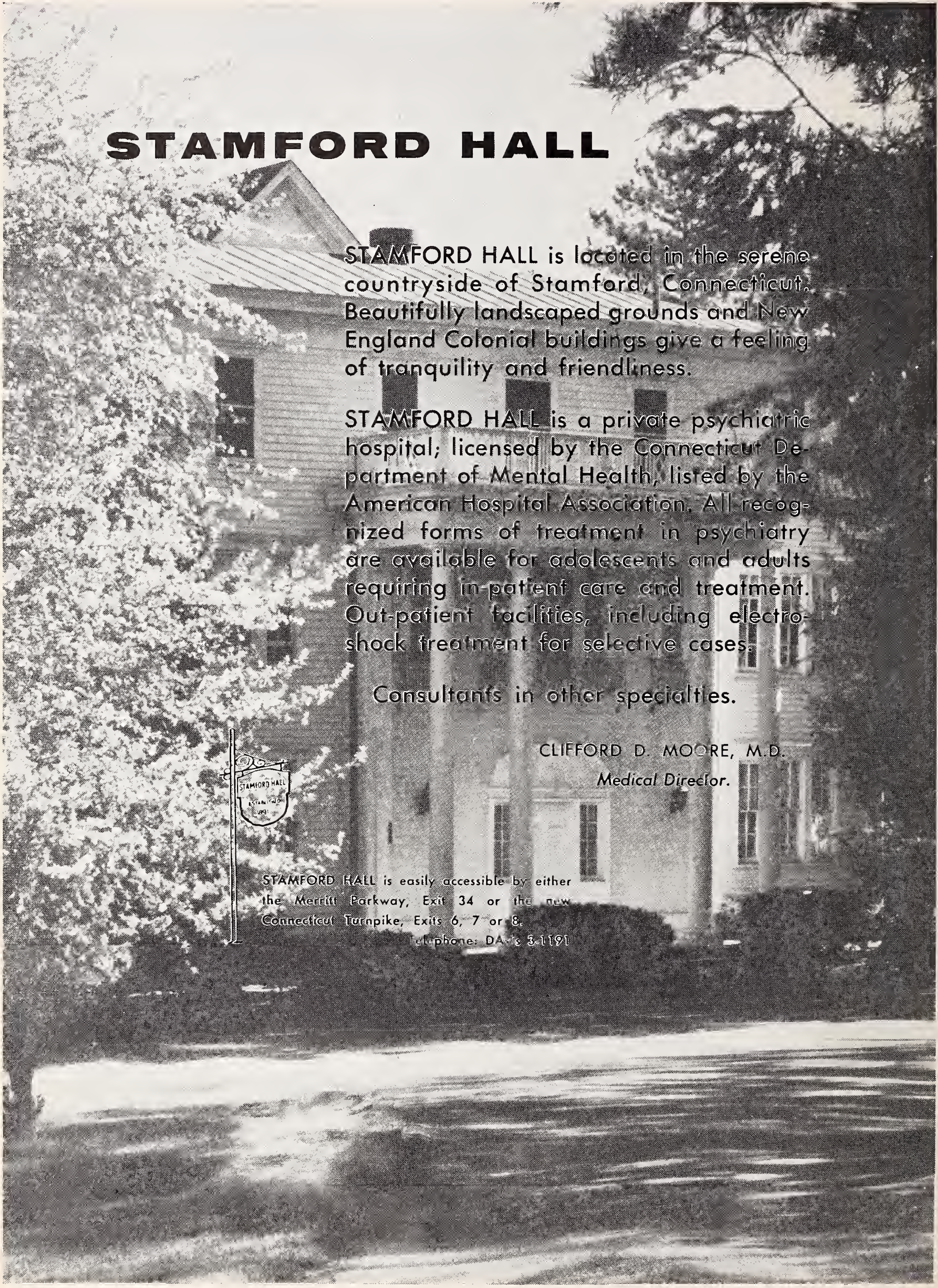
Leukemia-Causing Virus, Drug Studies Reported To Cancer Research Meeting

Discovery of a virus that causes leukemia quickly in mice and additional data on promising studies of chemotherapeutic agents marked reports to the 50th annual meeting of the American Association for Cancer Research.

The new virus was found in cell-free preparations of sarcoma 37 during an investigation of its biochemistry by J. B. Moloney, Ph.D., of the National Cancer Institute. Dr. Moloney reported that when cell-free extracts of sarcoma 37 were inoculated into mice less than 16 hours old, nearly all of them died of leukemia within four to eight months.

Extracts obtained from tissue of the mice that first developed leukemia contained high concentrations of virus, Dr. Moloney said. When injected into new-born mice, the virus produced leukemia uniformly, and all of the animals died within 10 weeks.

Dr. Charles G. Zubrod, Clinical Director of the National Cancer Institute, commented in an interview that Dr. Moloney's discovery represents an important contribution to "the evidence which is advancing to associate cancer with viruses, even though such evidence has not been confirmed yet at the clinical level."



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Book Reviews

SYNOPSIS OF OPHTHALMOLOGY by William H. Havener, M.D., The C. V. Mosby Co., St. Louis, Missouri, 8/12/59. 288 pages, $6.75.

Reviewed by Eugene M. Blake

Dr. Havener has encompassed in this small volume of 200 pages a remarkable synopsis of the many facets of ophthalmology. As the title indicates and the author states, the work is not intended as a complete textbook of the many phases of ocular pathology, but was written for the non-ophthalmologist, and perhaps for the physician in remote communities who is forced to do as much as possible in the treatment of eye diseases and injuries until more expert care is available.

The paper is of high quality and the illustrations—to the number of 185—are uniformly excellent. The 17 chapters begin with the matter of inspection of the eye, through chapters on diagnosis, uveitis, glaucoma, neuro-ophthalmology, etc. The surgical treatment is conservatively presented. The volume ends with a discussion of prevention of blindness—a welcome addition.

THE PHYSICIAN AND THE LAW. Second Edition, By Rowland H. Long, Appleton-Century-Crofts, Inc., New York, 302 pp. $5.95.

Reviewed by Denis S. O'Connor

At the present time when doctors are considered legitimate prey for the patients who not only are unwilling to pay their just debts but look upon physicians as a good touch for easy money, it is more important than ever that the doctor knows the pitfalls of doctor-patient relationship.

This book, written in easily understood language with references to legal decisions upon which the advice given is based, is an ideal book on this subject for the doctor's library.

A little time spent in reading parts of this book in moments of leisure or when beset by a possible legal involvement could repay the doctor many times over in peace of mind and financial savings.

"SOIL, GRASS AND CANCER." By Andre Voisin. Publisher—Philosophical Library, Inc., 15 East 40 Street, New York 16, New York. 302 pp.. $15.00. Translated from the French by Catherine M. T. Herriot and Dr. Henry Kennedy.

Reviewed by Denis S. O'Connor

The title of this book suggests not a scientific work but rather an appeal for the headlines. The author is a practical farmer and a lecturer in a highly regarded Veterinary School. His thesis is essentially an endeavor to show that the health of animals and men is profoundly influenced by the mineral balance of the soil.

A title of "Soil, Fodder and Disease" might be a more accurate and comprehensive one for this book because of the relationship of the chemical balance of the soil to many disease conditions is discussed. The author traces the relationship of certain trace elements in the soil to various unhealthy conditions he has observed in farm animals and seems to show that when the chemical balance is corrected, the animals return to normal. He cites the importance of such trace elements as copper and manganese in the normal functioning of the human and lower animals.

The book is very thought-provoking for anyone who realizes the tremendous impact of recent agricultural chemistry.

The present concern of our Federal Health authorities on the effects of pesticides, additives, hormones and antibiotics on the health of our people, paralells ideas expressed in this work.

Our standards of food wholesomeness at present are largely based on freedom from bacterial contamination or the right percentage of some ingredient such as butter fat but our present day concern should be the poisonous pesticides which are leeched from the soil or the industrial wastes that find their way into our water supplies, or the penicillin content of milk from treated cows.

Many of the poisonous substances which could be present in water and food would not necessarily indicate their presence by any visual, or gustatory signs nor would their presence be indicated by any of the now current tests for wholesomeness. It should, therefore, be a matter of concern for our Public Health authorities.

Since it would be impossible in a review of this type to adequately discuss all the instances of diseased condition which in the author's opinion stem from the chemical soil imbalance, one would need to read this book in order to grasp the significance of the matter discussed.

In this age of cell chemistry the importance of the ideas expressed in this work may have great significance.

CLINICAL AUSCULTATION OF THE HEART. By Samuel A. Levine, M.D. W. B. Saunders Company, Philadelphia, Pa., 8/24/59. 657 pp. $11.00.

Reviewed by Louis H. Nahum

This is the Second Edition of a monumental work on the meaning of heart sounds and heart murmurs. In essence we have a book on differential diagnosis by auscultation. Any obscure sound or murmur that has been heard is here recorded, analyzed and explained.

There was a time years ago when auscultation was a fine art and skill in its use led to astute diagnostic inferences. As laboratory techniques grew it tended for a while to set aside the art of listening to the heart and understanding its pathophysiology by the stethoscope. However, with the further growth of instrumental means of recording sound for permanent record and checking many of the findings through radiological and catheterization techniques we are now in possession of enduring information on the meaning of heart sounds and murmurs in various types of heart disease. There is a burst of interest now in going back to the stethoscope. In this respect the present volume will help the clinicians immeasurably. It tells how to use the stethoscope to the best advantage in diagnosing diseases of the heart.

If you hear a hum or a murmur or a split first or second sound anywhere on the chest you will find it analyzed and explained in this book.

The reviewer had occasion to explain a systolic murmur that was heard equally well in the front and the back. In this book the sounds heard in coarctation were described graphically and it was apparent it was this lesion that produced the murmur.

One also finds explanations of the opening snap in mitral stenosis, the gallup rhythm, sounds associated with cardiac irregularities with various types of congenital anomalies. In fact this section has been greatly expanded.

There is so much new information in this book compared to what was covered in the last edition of ten years ago that it is much larger. Split sounds are especially well explained.

It is not just a didactic book. New cases and examples are quoted and show how small variations in pathology can alter the whole character of a sound.

Since one heart's murmurs and heart sound alterations constantly, a book like this at one's elbow can only increase one's diagnostic acumen and add pleasure to the examination of a patient. The book is a must for any one with a stethoscope.

In the next edition the authors would probably wish to use uniform terminology instead of using atrial and auricular alternately and also electrocardiogram instead of electrocardiograph. The style is rather informal as it should be from the pen of a great teacher, but occasionally a more formal note in reference to a patient could be used to improve the text. The book ends with a fine index of 18 pages which is of extreme use to a searching student.

Draft Extension Passed by House

Legislation to extend the regular and doctor drafts for four more years is moving ahead in Congress, which has been warned that "this is not a Defense Department must; it is an American must."

The stern note of caution came from Chairman Carl Vinson (D., Ga.) of the Armed Services Committee when he presented the extension bill to the House for action. It was approved 381 to 20.

There was no immediate indication when the Senate would act, except that the bill will be taken up "in plenty of time" before June 30, the scheduled expiration date for both regular and doctor drafts.

At House hearings, Defense Department officials and military medical chiefs argued that without the threat of compulsory induction the military services would not receive the volunteers they need.

American Medical Association, in a letter from Executive Vice President F. J. L. Blasingame to Vinson, asked for several changes in the doctor draft.

The AMA proposed, as it has in the past, that other specialists such as engineers and physicists be subject to the special draft, as well as doctors, a suggestion the committee did not accept. Dr. Blasingame also urged that Congress give serious consideration to factors such as technical military advances and declining manpower needs before voting an extension as long as four years.

On the extension itself, Dr. Blasingame's letter stated:

". . . The American Medical Association wishes to reaffirm its position outlined in testimony . . . in May, 1957 . . . on the bill subsequently enacted. At that time the Association testified that, '. . . if the demands for the defense and security of our nation are such that, in the opinion of Congress, it is necessary to have a draft act to maintain the strength of our Armed Forces, then the extension of the present legislation would be one method to insure sufficient physicians for the military services.' "

Under the doctor draft, physicians who have received educational deferments are subject to call to their thirty-fifth birthday. Other registrants are free of obligation at age 26.

Coronary Disease Is Being Studied In Two Surveys

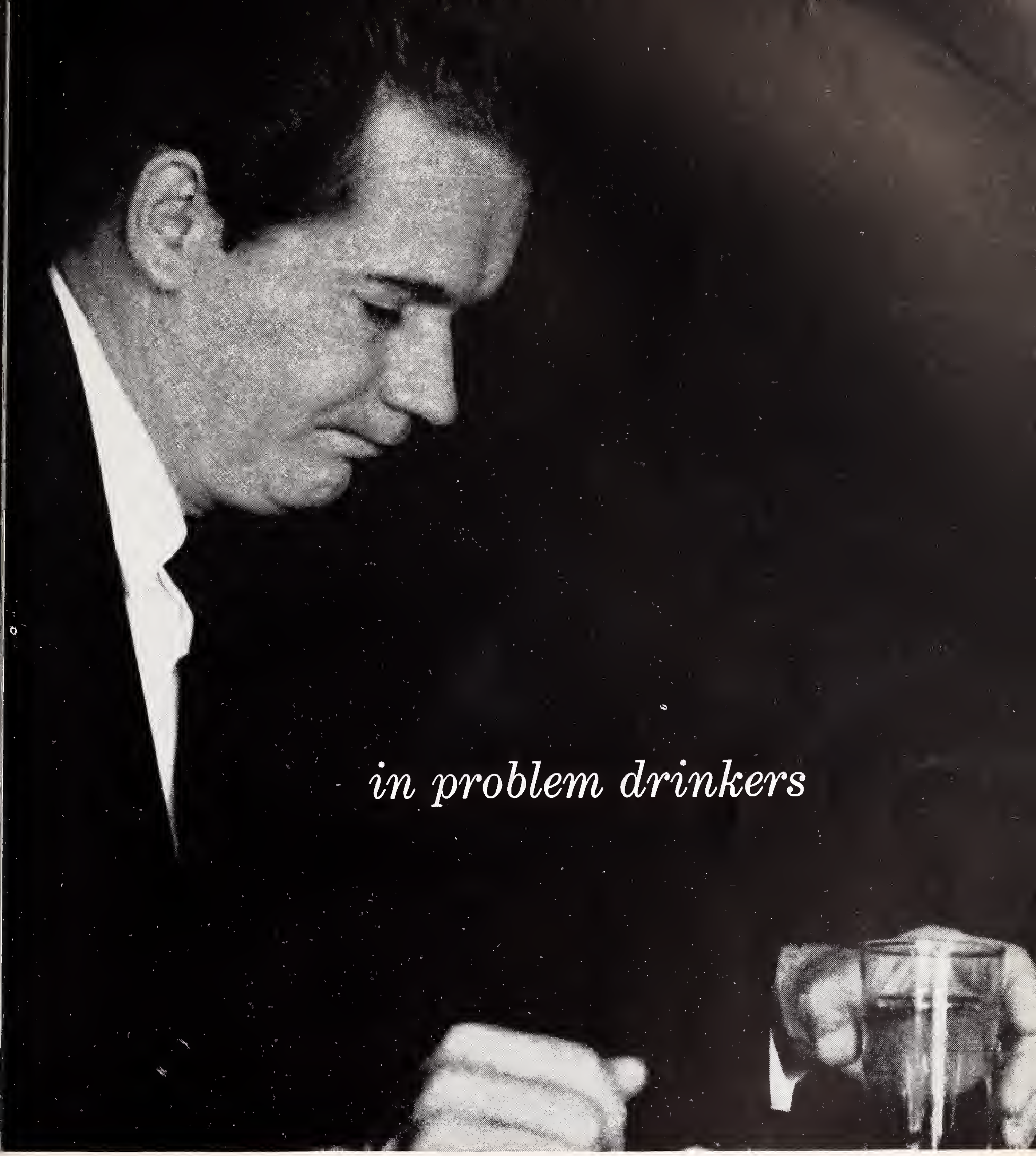
Long-range epidemiologic surveys of coronary artery disease are being conducted among selected groups of workers by two separate teams.

One team is headed by Dr. Jeremiah Stamler, Director of the Heart Disease Control program of the Chicago Board of Health. The other is headed by Dr. Oglesby Paul, Clinical Associate Professor of Medicine at the University of Illinois College of Medicine.

No conclusions have been reached as yet by Dr. Paul, whose study is supported by grants from several sources, including the U. S. Public Health Service, the American Heart Association, and the Chicago Heart Association. The study involves 2,107 men aged 40-55 who are employed at the Western Electric Company's Hawthorne plant on Chicago's west side.

A complete medical history has been obtained from each worker, and a thorough physical examination is made. A chest film, ECG, urinalysis, and hemoglobin and serum cholesterol determinations are also made. Full data on the worker's dietary habits and his physical activities at work and at home are obtained through interviews.

"We know that coronary disease becomes manifest as a major health problem in this age group," Dr. Paul said. "During the course of the study we will record all changes in the worker's health as well as keep careful records on his living habits. At the end of the study we will attempt to correlate the development of heart disease in this group with the various factors which are suspected in the etiology of the disease."



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Professional literature available on request from the Medical Department, Pfizer Laboratories, Div., Chas. Pfizer & Co., Inc., Brooklyn 6, New York

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Special Notices

HARTFORD HOSPITAL

Saturday Morning 11 O'clock Guest Speakers
March 5 to April 30, 1960

March 5 (Three Day Visiting Surgeon) March 3, 4, 5 Fiorindo Simeone, M.D., Professor of Surgery, Western Reserve School of Medicine.

9:00 A.M. Subject: Surgical Case Presentation
10:00 A.M. Subject: Surgical Ward Rounds
11:00 A.M. Subject: Management of Peripheral Vascular Disease

March 12—Donald P. Shedd, M.D., Assistant Professor of Surgery, Yale University School of Medicine. Subject: The Romance of the Decubitus Ulcer.

March 19—Oliver Cope, M.D., Associate Professor of Surgery, Harvard Medical School.

9:00 A.M. Subject: Surgical Case Presentations
10:00 A.M. Subject: Surgical Ward Rounds
11:00 A.M. Subject: Non-Toxic Nodular Goiter

March 26—H. M. Marvin, M.D., Associate Clinical Professor of Medicine, Yale University School of Medicine. Subject: Present Status of Coronary Atherosclerosis.

April 2—Donald Holub, M.D., Assistant Professor of Medicine, Columbia College of Physicians and Surgeons.

10:00 A.M. Subject: Adrenal Function During Pregnancy
11:00 A.M. Subject: Congenital Adrenal Hyperplasia

April 9—George Cahill, M.D., Harvard Medical School. Subject: Biosynthesis in Clinical Practice.

April 16—Warren Guild, M.D., Harvard Medical School. Subject: Dialysis in Renal Failure.

April 23—Alexander Nadas, M.D., Cardiologist, Children's Hospital, Boston. Subject: Pulmonary Stenosis.

April 30—Eugene Spitz, M.D., Neurosurgeon, Children's Hospital, Philadelphia. Subject: The Treatment of Hydrocephalus.

THIRTY-NINTH ANNUAL MEETING NEW ENGLAND HOSPITAL ASSEMBLY

Statler Hilton Hotel
Boston, Massachusetts
March 28, 29, 30, 1960

Admission to General and Special Sessions of the New England Hospital Assembly is Open to All Registrants.

The Instructional Conferences are in addition to the General and Special Sessions of the New England Hospital Assembly. Admission to the Instructional Conferences is by *Ticket Only*. A catalogue of courses and application forms will be sent to your hospital. All applications must be made on these official application forms. Tickets will then be issued.

PAN-PACIFIC SURGICAL ASSOCIATION

Eighth Congress
Honolulu, Hawaii
September 27—October 5, 1960

The Eighth Congress of the Pan-Pacific Surgical Association will be held in Honolulu, Hawaii, September 27 through October 5 in 1960.

All members of the profession are eligible to register and are urged to make arrangements as soon as possible if they wish to be assured of adequate facilities because of limited space.

An outstanding scientific program by leading surgeons promises to be of interest to all doctors. Ten surgical specialty sections are held simultaneously.

Further information and brochures may be obtained by writing to Dr. F. J. Pinkerton, Director General of the Pan-Pacific Surgical Association, Suite 230, Alexander Young Building, Honolulu 13, Hawaii.

POSTGRADUATE COURSE ON PULMONARY FUNCTION

Sponsored by
AMERICAN TRUDEAU SOCIETY
and others
THE DOWLING AMPHITHEATRE
THE BOSTON CITY HOSPITAL
Boston, Massachusetts
March 21-25, 1960

Applicants should write directly to the Chairman, Edward J. Welch, M.D., 1101 Beacon Street, Brookline 46, Massachusetts for application blanks.

Admission will be by Matriculation Card only.

CONNECTICUT CHAPTER OF THE AMERICAN PHYSICAL THERAPY ASSOCIATION

Announcing an all day educational seminar presented by the Connecticut Chapter of the American Physical Therapy Association. The seminar will be divided into two sections, one dealing with "Thoracic Surgery," and the other on "Recent Advances in Lower Extremity Prosthetics."

The date is May 7th from 9:00 A.M. till 4:00 P.M. at Gaylord Farm Hospital in Wallingford, Connecticut. Reservations may be made by contacting Miss Rosemarie Casella at the Gaylord PM&R Department, before April 28th.

Fees are as follows:

A.P.T.A. Members	$5.00
Non-Members	$7.00
Students	$2.00

Lunch will be available (optional) at an additional nominal fee.

Respectfully Submitted,
RICHARD V. JACKMAN,
Committee Member

SYMPOSIUM ON THE ALLERGIC CHILD

Department of Pediatrics, Hospital of St. Raphael,
New Haven, Connecticut
April 6, 1960

MORNING SESSION: 9:30 A.M.—April 6, 1960

Chairman: Paul F. McAlenney, M.D., Chairman, Department of Pediatrics, Hospital of St. Raphael

Moderator: Victor L. Szanton, M.D., Director, Pediatric Allergy Clinic, Hospital of St. Raphael

9:00- 9:30 A.M. Registration

9:30- 9:45 A.M. Welcome and Dedication Remarks—Paul F. McAlenney, M.D.

9:45-10:00 A.M. The Nature of the Allergic Reaction—Bela Schick, M.D., Consulting Pediatrician, Mt. Sinai Hospital, N. Y. City

10:00-10:30 A.M. The Allergic Index: A practical advance in the diagnosis of allergic disease—Howard G. Rapaport, M.D., Physician-in-Charge, Children's Allergy, Mt. Sinai Hospital, N. Y. City

Discussant: Samuel J. Levin, M.D.

10:30-11:00 A.M. The Differential Diagnosis Between Atopic (allergic) and Seborrheic Dermatitis—Jerome Glaser, M.D., Clinical Associate Professor of Pediatrics, University of Rochester, School of Medicine and Dentistry, Rochester, New York

Discussant: Frederic Speer, M.D.

11:00-11:30 A.M. Asthma in Infancy and Young Children—Susan C. Dees, M.D., Professor of Pediatrics (Allergy), Duke University Med. Center, Durham, North Carolina

Discussant: Edward S. O'Keefe, M.D.

11:30-12:00 NOON *Question and Answer Period*

12:00- 1:00 P.M. Luncheon

1:00- 2:00 P.M. Demonstration: Diagnostic Testing: Scratch, Intradermal and Ophthalmic Testing

AFTERNOON SESSION: 2:00 P.M.

2:00- 2:30 P.M. General Care and Prophylaxis of the Allergic Child—Douglas E. Johnstone, M.D., Director, Pediatric Allergy Clinic, Strong Memorial Hospital, Rochester, New York

Discussant: Howard G. Rapaport, M.D.

2:30- 3:00 P.M. Hyposensitization and Seasonal Rhinitis—Samuel J. Levin, M.D., Assistant Clinical Professor, Pediatric Allergy, Wayne State University Medical School, Detroit, Michigan

Discussant: Jerome Glaser, M.D.

3:00- 3:30 P.M. Food Allergy and Elimination Diet—Frederic Speer, M.D., Associate Clinical Professor of Pediatrics, University of Kansas School of Medicine, Kansas City, Kansas

Discussant: Susan C. Dees, M.D.

3:30- 4:00 P.M. An Evaluation of Cortico-Steroid Therapy in Eczema of Infancy and Childhood—Edward S. O'Keefe, M.D., Formerly Physician to Pediatric Allergy Clinic, Massachusetts General Hospital, Boston, Massachusetts

Discussant: Douglas E. Johnstone, M.D.

4:00- 4:30 P.M. Treatment of Institutionalized Children with Intractable Asthma—M. Murray Peshkin, M.D., Clinical Professor of Medicine and Pediatrics for Allergy, Albert Einstein College of Medicine, Yeshiva University, N. Y. City

4:30- 5:00 P.M. *Question and Answer Period*

5:00- 6:00 P.M. Social Hour

PHYSICIANS RETREAT

March 29 (Tuesday Eve)-March 31 (Thursday Noon)
Holy Family Retreat House
Tel. ADams 6-1696

PLACEMENT WANTED

The Society's Placement Service is in receipt of the following:

James Cimino—age 31—M.D., New York University Bellevue College of Medicine 1954—Specialty Internal Medicine—Interested in part time or full-time position. Available in August 1960.

Alexander M. De la Garza—Age 30—M.D. University of Mexico 1953—Specialty Surgery.

Gerald Copeck—Age 28—M.D. University of Zurich, Switzerland 1956—Pediatric Residency, City Hospital at Elmhurst March 1, 1958—June 30, 1960—Specialty Pediatrics—available July 1960.

Any member of the Society knowing of an opportunity for placement of the above physicians is asked to communicate with the General Manager's Office, 160 St. Ronan Street, New Haven.

Meetings Held in February

2 Advisory Committee to the Commissioners of Welfare and of Finance and Control

3 Sub-committee on Toxemia
Committee on Indigent Study
Committee on Postgraduate Education
Committee on Relative Value Study

4 Advisory Committee on Maternal and Child Hygiene
Committee on Health Careers

11 Committee on Public Health
Nominating Committee
Council
Public Relations Committee
Advisory Committee on School Health
Executive Committee of EENT Section

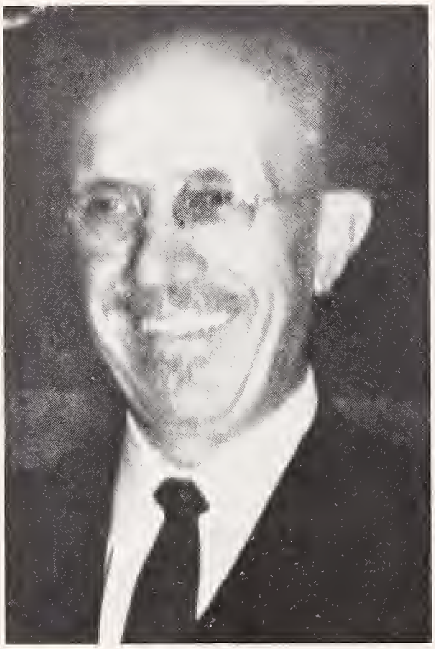
17 Committee on Hospitals
Committee on Medicare

18 Committee on Medical Care of Veterans

24 Committee to Study Maternal Mortality & Morbidity
Committee to Study Perinatal Mortality & Morbidity
Committee on Accident Prevention
Committee on Eye Care

Obituaries

H. Bruno Arnold, M.D.
1902 - 1960



Dr. H. Bruno Arnold died suddenly at his home in Woodbridge on January 7, 1960, of an acute myocardial infarction.

He was born in New Haven on October 27th, 1902, the son of the late Ernst H. and Marie Nagle Arnold. A graduate of New Haven Hillhouse High School in 1919 and Yale University in 1923. He received his medical education at the Yale School of Medicine and graduated in 1927.

Prior and subsequent to the four years before World War II, when he took over the presidency of Arnold College after the death of his father, he devoted his professional career to physiotherapeutic and rehabilitative medicine. He was called from reserve status to active duty into the Navy in 1941 where he served with recognized distinction in his chosen field from 1941 through 1945. Entering as a Lieutenant Commander he rose to a full Captain and at the time of his return to reserve status was acting head of the Department of Physiatric Medicine in the Bureau of Medicine and Surgery of the Navy in Washington, D. C. He returned to private practice in 1946 as director of the Department of Physiatrics at the Hospital of St. Raphael.

Dr. Arnold was keenly interested in rehabilitative procedures and tremendously endowed with the patience, sympathetic understanding and unfailing good humor so essential in the field of chronic and debilitating disorders, his removal from our midst by untimely death makes him sorely missed by physicians and patients alike. He gave of himself freely to civic and community services. For many years he served as medical examiner of Woodbridge and Bethany and for a long time he was on the Woodbridge Town Board of Health. He served as consulting physician for New Haven Curative Workshop and was on the board of New Haven Area Rehabilitation Center. In 1954 he served as chairman of the Easter Seal Campaign for the New Haven area. He was also senior consultant at the Veterans Administration Hospital at Rocky Hill and a member of the State Board of Examiners for technicians and physiatrics. He was a member of the American Medical Association and of the American Academy of Medcine in Physiatrics.

Dr. Arnold is survived by his wife, the former Elizabeth Wood, two sons, Philip, a freshman at Yale and Ernst Ellsworth, a senior at Amity High School, and a sister, Mrs. Joachim Meyer of New York.

His dedication to his profession and his great interest in humanity endeared him to all whose privilege it was to know him.

Benedict R. Harris, m.d.

James E. Hutchison, M.D.
1889 - 1959

James Edler Hutchison was born in Xenia, Ohio, May 18th, 1889, and died November 2, 1959.

He attended local schools and was prepared for college when he was 16 years of age. He received his B.A. degree from Ohio State University in 1909. He taught chemistry at the University of Iowa for one year and began the study of medicine at Johns Hopkins Medical School from which he graduated in 1914. He was an intern at the Hartford Hospital and began the practice of Medicine in Hartford immediately following his graduation. He became assistant visiting physician to the Hartford Hospital and joined the Army in World War I. He was discharged from the Service as a Major of the Medical Corps.

After the war, he resumed his practice in Hartford and was made visiting physician to the Hartford Hospital in 1934. He was made vice president of the active staff in 1941 and vice president of the medical and surgical staff in November 1943. He was assistant physician to the McCook Memorial Hospital from 1920 to 1923 and was consultant to the Neuro-Psychiatric Institute for a number of years.

Dr. Hutchison was a member of the Hartford Medical Society, the Hartford County Medical Society and the Connecticut State Medical Society. He was a member of the American College of Physicians and was certified by the American Board of Internal Medicine. He was very ambitious and attended many medical meetings. He was given the Award of Merit of Post Graduate Education by the Interstate Post Graduate Medical Association of North America.

He was a member of the Asylum Hill Congregational Church. He leaves his wife and two daughters, one son and two grandchildren.

We have never known a doctor who was more conscientious and kind to his patients both privileged and underprivileged. The weather was never too bad to keep him from making his calls, and there was never a more reliable man in every way. He was greatly loved by his patients and also the doctors who knew him well.

Claude C. Kelly, M.D.

Joseph S. Stabnick, M.D.
1910 - 1959

Dr. Joseph S. Stabnick, a member of the Department of Anesthesiology at Hartford Hospital died suddenly on November 14, 1959. His death was due to acute myocardial infarction following an illness lasting only one day.

He was born in Adrian, Pennsylvania, March 6, 1910. He attended high school in Hamtramck, Michigan, the University of Detroit and the University of Michigan where he won a letter in varsity basketball. He received his M.D. degree from Jefferson Medical College in 1934. Following graduation he interned for one year at the Reading General Hospital, Reading, Pennsylvania. His postgraduate studies included two years of residency training in obstetrics and gynecology at New York Lying-In Hospital followed by two years of residency at the John Gaston Hospital, Memphis, Tennessee.

Dr. Stabnick practiced obstetrics and gynecology in Memphis, Tennessee, for fourteen years, serving finally as chief of the obstetrical service at St. Joseph's Hospital. Throughout these years he was interested in methods for control of pain. This interest developed into a vital concern and in 1953 Dr. Stabnick came to Hartford Hospital for training in anesthesiology. Following two years of residency he became a member of the staff of the Department of Anesthesiology at Hartford Hospital. His duties included supervision of the anesthesia service at the Veterans Administration Hospital, Newington, Connecticut.

He leaves his wife, LaVerne Weigand Stabnick, a daughter Holly, 16, and two sons, Joseph 17, and Richard, 15. He is best remembered by his friends because of his generosity to all who sought his counsel and aid. He was always willing to advise young physicians and anxious to help them financially. It is doubtful if he ever refused a request for assistance. Few men have the capacity for friendship and reassurance which he possessed. His associates and his many friends deeply regret his untimely death.

William K. Bannister, M.D.
Ralph M. Tovell, M.D.

Leonard Walter Munson, M.D.
1868 - 1959

Dr. Leonard Walter Munson was born in Hastings on the Hudson in 1868. He graduated from Fort Edwards College, where he later taught for three years.

Dr. Munson was a member of an old New England family, many being medics. He, therefore, also decided for a medical career.

He entered the office of a prominent physician in New York City, reading medicine under his preceptorship.

Later entered the medical department of Georgetown University graduating in 1896.

He served as intern in the Washington Emergency Hospital before coming to practice in Stamford.

He engaged mostly in general practice, also minor surgery and a great deal of obstetric and the last ten years of his practice was working for the Metropolitan Insurance Company as an examiner.

He was associated with the Stamford Hospital and a member of the Stamford Medical Society.

He practiced in Stamford forty-two years and retired at the age of 70, moving to Milford, Connecticut, and died at the age of ninety.

Dr. Munson was a humanist, a liberal in full American tradition. He also was a sincere and true friend.

Charles Dichter, m.d.
Jacob Nemoitin, m.d.

Richard Foster Rand, M.D.

1868 - 1960

Dr. Richard Foster Rand, past president of the Connecticut State Medical Society, died at Moultonboro, New Hampshire, January 18, 1960, at the age of 91. He was born in Meriden, Connecticut, September 18, 1868, the son of Philip Curtis and Mariah Foster Rand. He graduated from the Sheffield Scientific School in 1895 and received his M.D. degree from Johns Hopkins in 1900. He practiced in New Haven from 1900 to 1948. Dr. Rand specialized in obstetrics and gynecology and taught these subjects as a member of the Yale Medical Faculty. At the time of his death he was Clinical Professor Emeritus. As an early specialist in southern Connecticut Dr. Rand for many years was foremost in these fields. He was greatly beloved by his patients and his colleagues who recognized in him not only the skillful physician but the warm and generous friend. Painstaking, patient, calm and deliberate he embodied these qualities so essential in his field of practice. His kindly spirit and generosity is remembered today by many physicians who in younger days sought his guidance in practice and his services for their own families. Long after his retirement he maintained an absorbing interest in things new in medicine as his lively correspondence witnessed. He had fine hands not only as an accomplished surgeon but as a craftsman and many of his friends now treasure his wood turnings made in later years.

Richard Rand, known lovingly by hundreds as "Dicky," was a fine doctor, a warm friend and a person utterly without guile. We who knew him as a friend were fortunate indeed.

Herbert Thoms, m.d.

F. Wellington Brecker, M.D.

1901 - 1959

While visiting his sister at St. Francis Hospital on the evening of November 3, 1959, Dr. F. Wellington Brecker of West Hartford suddenly collapsed and died from a heart attack. He was 58 years old.

He was born in Tamaqua, Pennsylvania, July 18, 1901. Dr. Brecker was the son of the late Peter and Mary Ellen Higgins Brecker. He graduated from St. Peter's School in 1915 and from Hartford High School in 1919. Premedical course was taken at Trinity College and he graduated from Tufts Medical School, Medford, Massachusetts. Internship was at St. Mary's hospital, Waterbury, and dermatological training consisted of matriculation at the New York Skin and Cancer Hospital and a residency at Boston City Hospital 1946-1947.

He was on the staff of St. Francis Hospital, Hartford as a clinical associate in 1938, visiting physician in dermatology 1953 and clinical visiting physician, section on dermatology from 1956 until his death. He was also a member of the staff of McCook Hospital and Institute of Living.

Dr. Brecker was also a member of the American Medical Society; Connecticut State Medical Society and was a past president of the section on dermatology, American Academy of Dermatology and Syphilology; Atlantic Dermatological Society; New England Dermatological Society; Hartford County Medical Society and Hartford Medical Society.

He leaves his wife, Melva; a daughter, Cathleen; two sons, Brian of West Hartford; and F. Wellington, Jr. of Springfield, Massachusetts; two sisters, Mrs. John E. Dwyer of West Hartford and Mrs. John Delaney of Hartford; and a brother, Raymond of Hartford.

His absence will be keenly felt not only by his wife and family but by a host of friends, patients and medical confreres who held him in the highest esteem.

In Memoriam

CALLENDER, EUGENE F.—Chester; Yale University School of Medicine, 1912; served on the surgical staffs of Hartford Hospital and Middlesex Memorial Hospital, Middletown; practiced general medicine in Chester for 30 years; died February 3 at Hartford Hospital following a long illness, age 70.

SHULMAN, DAVID N.—New Haven; Johns Hopkins School of Medicine, 1917; practiced medicine in Hartford since his licensure in 1931 and moved recently to New Haven; died at the West Haven Veterans Hospital, December 30, 1959 at age of 68 years.

STAUB, J. HOWARD—Stamford; Long Island College of Medicine, 1899; retired chief of staff, Stamford Hospital, Dr. Staub practiced surgery in that community for more than half a century; past president of the Stamford Medical Society and the Fairfield County Medical Association; he retired from active practice in 1952; died January 10, age 84.

VERSHBOW, NATHAN—West Hartford; Tufts College Medical School, 1919; a native of Russia, Dr. Vershbow came to this country as a young man and following graduation from medical school established his practice in Hartford, where he resided for 40 years; he retired from practice ten years ago; died of a heart attack at the West Hartford Branch of the Hartford National Bank, January 8, at age of 72 years.

WARNER, GEORGE H.—Bridgeport; Yale University School of Medicine, 1897; practiced ophthalmology in Bridgeport for more than 50 years; an ardent golfer, he had played the course at the Brooklawn Country Club several days before his death; he had resided at the club since last fall; died in his sleep February 3, age 89.

Use Of Gamma Globulin

Immune (gamma) globulin is usually an effective preventive, and should be administered to persons who have had close contact with a patient, even one with a mild infection. Such persons should be made to understand that the virus responsible for a mild, brief attack in one person can cause severe and prolonged disease in another. Since children generally get a much milder form of infectious hepatitis than adults, and since one attack may confer lifelong immunity, some authorities believe that adults should have preference in the use of immune globulin. When it is administered to children, a dose of 0.01 cc. per pound body weight should provide adequate protection while permitting a modified infection to occur. For adults, a dose of at least 0.02 cc. per pound should be used. Immunity lasts about four to six weeks.

Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.

New Drug For Parkinsonism Symptoms Discussed

A new drug has been found to be of "positive value" in the treatment of Parkinson's disease, or "shaking palsy," according to two New York doctors.

The drug is chlorphenoxamine hydrochloride, a derivative of diphenhydramine (Benadryl) hydrochloride, which is an antihistaminic and an antispasmodic.

Chlorphenoxamine is especially useful for the relief of muscular rigidity, loss of motor function, fatigue, depression, and weakness, all symptoms of Parkinson's disease. It is less effective against tremor, the most outstanding symptom of the disease.

However, it provides the patient with more energy and strength, greater freedom of motion and longer duration of activity than most current remedies, Doctors Lewis J. Doshay and Kate Constable of Columbia University said in the current Journal of the American Medical Association.

Chlorphenoxamine is "a valuable addition to the armamentarium of drugs" for use in patients with Parkinson's disease, they said. Most patients with Parkinsonism need more than one drug to control all the symptoms of the disease, and chlorphenoxamine can be combined with other drugs that are effective against tremor.

The doctors noted that the side effects of the drug are minimal and that it does not appear to lose its effect after the patient has been using it for some months. The drug was given to 161 patients by the New York doctors and 53 per cent were benefited.

"Experience has shown that if a new drug provides 30 per cent of patients greater benefits than they were able to obtain from available compounds, it has clinical merit," the doctors said. Chlorphenoxamine, with its record of benefiting 53 per cent, is a worthy addition to the long list of drugs now available for the treatment of Parkinsonism.

Serum Carotene Level As An Indication Of Malabsorption State

Determination of the serum carotene level is now being performed by the laboratory as an aid in detecting the malabsorption syndrome.

Carotene, or "provitamin A," is not produced by, nor significantly stored in the animal organism. The serus level is dependent upon daily intake and subsequent absorption from the gastrointestinal tract. Carotene is present in large amounts in leafy vegetables and in pigmented fruits and vegetables, particularly carrots; it is also present in lesser amounts in liver and kidney. Serum carotene levels may be significantly and rapidly altered by dietary supplementation, in contrast to Vitamin A levels which are rather constant because of large endogenous reservoirs. Serum carotene levels are higher in the late summer and fall months because of the availability of fruits and vegetables during these seasons. (Women have slightly higher levels than men.)

Since the serum level of carotene is so dependent upon its ingestion and absorption, a low level almost always indicates a deficient diet or poor absorption. Carotene is extremely fat soluble; therefore, malabsorption of fat is associated with malabsorption of carotene.

The clinical application of serum carotene level in regard to malabsorption states was first reported by Clausen and McCoord (*J. Ped. 13,* 635, 1938.) Recent and thorough studies by Wenger, et al (Am. *J. Med 22,* 373, 1957) confirm the usefulness of serum carotene as an indicator of malabsorption.

In addition to malabsorption and dietary deficiency, low serum levels are seen in patients with high fever or diseases of the liver. Increased levels are noted with hyperlipemia, diabetes, hypothyroidism and increased ingestion.

The correlation of serum carotene level with other studies has been good; such as fat and nitrogen balance, I-131 labeled triolein absorption, gastrointestinal tract X-ray studies, duodenal intubation, pancreatic function studies, d-xylose excretion following its ingestion and plasma turbidity following a fat meal. Because of this good indication of malabsorption and because it is a simple procedure, the serum carotene determination should be the choice test for preliminary studies of the patient suspected of having a malabsorption syndrome before the more complicated tests are considered.

Serum carotene is determined by first separating it from the albumin, to which it is attached; by precipitating the proteins with ethanol; and then extracting the pigment with petroleum ether. The yellow color is measured spectrophotometrically and compared to a standard solution of crystalline carotene for precise quantitation.

The mean level in normal adults (Wenger) is 123 micrograms per 100ml of serum. Levels from 30 to 70 indicate moderate depletion, while a level below 30 indicates severe depletion.

Very low levels have been encountered in individuals who have become severely malnourished following poor dietary regimen. When levels below 80 micrograms per 100ml are found, a poor dietary intake can be differentiated from malabsorption by giving a loading dose of 50,000 units of carotene in vegetable oil. Serum is drawn 48 hours following this loading dose for a carotene level. Individuals with malnutrition but adequate absorption will double or triple their low levels of serum carotene whereas those with malabsorption will show an insignificant rise. Patients with severe liver disease may show a low serum carotene level which will not rise following a loading dose. This possibility, therefore, may require further investigation.

The determination, in duplicate, requires 10ml of clotted blood. No special preservation is required. The charge for the determination is $5.00.

L.B.

Reprinted with permission of Dr. Louis Brahen (L.B.) which appeared in "Lab News," December, 1959.

Urine Calcium

Normally, an adult on a modest dietary intake of calcium will excrete, in his urine, less than 150 mg of calcium per day. If his blood calcium is abnormally high, or if he is wasting bone, or if he is consuming or absorbing excessive amounts of calcium, he will excrete more than 150 mg. Conversely, a low blood calcium will generally be associated with a low urinary excretion. Clinical examples showing hypercalcuria include hypercalcemia from hyperparathyroidism, osteolytic metastatic carcinomas, and excessive milk drinking. Measuring the 24 hour excretion of calcium is an invaluable test in studying hyperparathyroidism, in that small elevations of serum calcium can be associated with large excretions of calcium. The treatment of a patient with, say, metastic breast cancer and hypercalcemia, can be followed and evaluated by studying calcium excretion since the latter diminishes as the therapy becomes more effective.

Calcium in urine is not difficult to measure if certain precautions are taken to separate it from interfering agents of which magnesium is one and phosphate another. Magnesium is separated from calcium by oxalate precipitation under slightly acid conditions. We measure the calcium by a spectrophotometric titration. While simpler procedures have been proposed, none can assure the accuracy and specificity of isolation and titration.

Reprinted with permission of Dr. David Seligson, Editor of "Lab News," December, 1959.

168th ANNUAL MEETING

of the

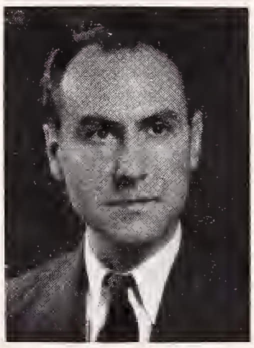
CONNECTICUT STATE MEDICAL SOCIETY

HAMDEN HIGH SCHOOL
2040 Dixwell Avenue, Hamden, Connecticut

April 26, 27, 28, 1960

PROGRAM COMMITTEE

ORVAN W. HESS, *New Haven, Chairman*
J. FORBES ROGERS, *Stamford*
HOWARD LEVINE, *New Britain*



ORVAN W. HESS
New Haven

CHARLES C. VERSTANDIG
New Haven

LOCAL COMMITTEE ON ARRANGEMENTS

CHARLES C. VERSTANDIG, *New Haven, Chairman*

FRANK K. ABBOT, *Waterbury*
JEROME S. BELOFF, *Meriden*
DAVID F. CONWAY, JR., *New Haven*
EUGENE J. FITZPATRICK, *New Haven*
STEVEN P. MAGYAR, *New Haven*
WALDO E. MARTIN, *Milford*

PROGRAM

Tuesday April 26

AUDITORIUM

ANNUAL MEETING OF THE HOUSE OF DELEGATES

THOMAS M. FEENEY, *Hartford, Speaker of the House, presiding*

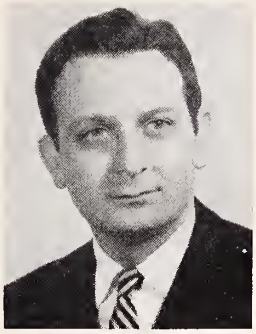
10:00 CALL TO ORDER
BUSINESS SESSION

1:00 LUNCHEON FOR OFFICERS, MEMBERS OF THE HOUSE AND GUESTS

2:00 RESUMPTION OF BUSINESS

7:00 ANNUAL DINNER OF THE COUNCIL—The Council will hold its annual dinner for the Program Committee, the Local Committee on Arrangements, and guests at the Colonial House, Hamden

HAMDEN HIGH SCHOOL


James F. Holland
Buffalo

Lewis J. Doshay
New York

Herbert Pollack
New York

Louis H. Bauer
New York

Wednesday, April 27

9:00 Registration—Exhibit Hall

Auditorium

9:15 Call to Order—Ellwood C. Weise, Sr., *Bridgeport, President of the Society*

Address of Welcome—Henry Caplan, *President, New Haven County Medical Association*

Howard Levine, *New Britain, presiding*

9:30 New Chemotherapeutic Agents For Malignancy

James F. Holland, *Buffalo, New York; Chief of Medicine (A), Roswell Park Memorial Institute; Assistant Professor of medicine, University of Buffalo*

10:10 The Treatment and Outlook For Parkinson's Disease

Lewis J. Doshay, *New York City; Associate Attending Neurologist, Presbyterian Hospital; Director, Parkinson Laboratory, Columbia-Presbyterian Medical Center*

10:50 Intermission to Visit Technical Exhibits

H. M. Marvin, *New Haven, presiding*

11:20 Diet in Coronary Disease

Herbert Pollack, *New York City; Associate Professor Clinical Medicine, New York University Postgraduate School; Associate Physician, Metabolic Diseases, Mt. Sinai Hospital*

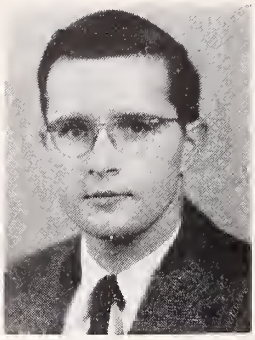
Ellwood C. Weise, Sr., *Bridgeport, presiding*

12:00 Blue Shield and the Medical Profession

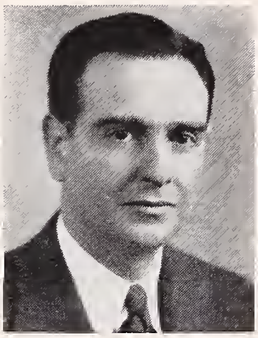
Louis H. Bauer, *New York City; Secretary-General, World Medical Association; Past-President, American Medical Association; Former Chairman, Board of Directors, United Medical Service, Inc., New York*

1:00 Luncheon—Cafeteria of the High School

Intermission to Visit Technical Exhibits



James B. Sidbury, Jr.
Baltimore



W. Paul Haven, Jr.
Philadelphia

Wednesday, April 27

AUDITORIUM

NELSON K. ORDWAY, *New Haven, presiding*

2:00 BIOCHEMICAL GENETICS

JAMES B. SIDBURY, JR., *Baltimore, Maryland; Assistant Professor of Pediatrics, Johns Hopkins Hospital*

2:40 CURRENT KNOWLEDGE OF VIRAL HEPATITIS

W. PAUL HAVENS, JR., *Philadelphia, Pennsylvania; Professor of Medicine, Jefferson Medical College; Physician to the Pennsylvania Hospital*

MEETINGS OF SECTIONS OF THE SOCIETY AND GUEST ORGANIZATIONS

WOMAN'S AUXILIARY TO THE CONNECTICUT STATE MEDICAL SOCIETY

16TH ANNUAL MEETING NEW HAVEN COUNTRY CLUB, HAMDEN

President: Mrs. Walter Nelson, *Cromwell* Secretary: Mrs. Saul Karpel

10:00 Registration

10:30 Business Meeting
Election of Officers
Memorial Service—Mrs. Edwin R. Connors, *Bridgeport*

12:00 Social Hour

1:00 Luncheon
Introduction of Guests

GUEST SPEAKER

WILFRED BLOOMBERG, *Commissioner of Mental Health, State of Connecticut*
"THE PLACE OF THE COMMUNITY HOSPITAL IN MENTAL HEALTH PROGRAMS."

Induction of Officers
Presentation of President's Pin—Mrs. Walter Nelson, *Cromwell*
Response of Incoming President—Mrs. Morton Arnold, *Willimantic*
Adjournment

Wednesday, April 27

SECTION ON ALLERGY

3:30 Room 104

President: R. Edward Vioni, Bridgeport

Secretary: Marvin Mogil, *New Haven*

PHOTOTOXIC AND PHOTOALLERGIC CONTACT DERMATITIS

WILLIAM L. CURWEN, *Boston; Research Assistant, Department of Dermatology, Massachusetts General Hospital*

EYE, EAR, NOSE AND THROAT SECTION

3:30

President: Clement C. Clarke, New Haven

Secretary: John P. Simses, Bridgeport

(There will be two separate programs, one for the Eye Group and one for the Ear, Nose and Throat Group.)

EYE SECTION—Room 105

THERAPY OF UVEITIS

IRVING H. LEOPOLD, *Philadelphia; Professor and Head, Department of Ophthalmology, Graduate School of Medicine, University of Pennsylvania; Director of Research, Wills Eye Hospital*

ENT SECTION—Room 103

OCEANOGRAPHY AND BIG GAME FISHING OFF THE COAST OF PERU

DANIEL MERRIMAN, *New Haven; Associate Professor of Biology, Yale University; Director of Bingham Oceanographic Laboratory*

6:30 Section Dinner, Waverly Inn, Cheshire

Speaker: HERBERT L. SEWARD, *New Haven, Professor Emeritus, Mechanical Engineering, Yale University*

"SOME NAUTICAL EXPERIENCES"

SECTION ON GASTROENTEROLOGY

3:30 Room 101

President: Sydney Selesnick, *West Haven*

Secretary: Frank K. Abbot, *Waterbury*

ADVANCES IN THE DIAGNOSIS OF STOMACH DISEASE

Cinefluorography in Gastroenterology—ROBERT M. LOWMAN, *New Haven; Associate Professor of Radiology, Grace-New Haven Community Hospital*

Gastric Biopsy—MARVIN I. FOX, *Milford*

Gastric Cytology—PAUL BERES, *Westport*

Wednesday, April 27

SECTION ON PHYSICAL MEDICINE

3:30 Room 108
President: Samuel A. Schuyler, *Hartford*
Secretary: Otto Goldkamp, *Hartford*

New Developments in Lower Extremity Prosthesis

Thomas F. Hines, *New Haven; Director of Physical Medicine, Yale University School of Medicine*

Robcliffe V. Jones, Jr., *New Haven; Associate Director of Physical Medicine, Yale University School of Medicine*

CONNECTICUT ASSOCIATION OF MEDICAL RECORD LIBRARIANS

9:30 Room 202
President: Miss Ann Sawchuk, *West Haven*
Secretary: Miss Sally MacVarish, *New Haven*

9:30 Registration

10:00 Business Meeting

2:15 Open Heart Surgery—Max Carter, *New Haven; Chief of Cardiac and Thoracic Surgery, Hospital of St. Raphael*

3:00 The Medical Record Department of the Future—From the Administrator's Viewpoint
Mr. John Ives, *Assistant Director, Grace-New Haven Community Hospital*

3:30 The Medical Record Department of the Future—From the Medical Record Librarian's Viewpoint
Miss Jean Feindt, *Chief Medical Record Librarian, Hartford Hospital*

4:00 Adjournment

CONNECTICUT CHAPTER OF NATIONAL ASSOCIATION OF SOCIAL WORKERS MEDICAL SOCIAL WORK SECTION

3:30 Room 201
Chairman: Miss Mary E. Desmond, *New Haven*
Secretary: Mrs. Loretta A. White, *Middletown*

Physical and Emotional Aspects of Spontaneous Abortion

Edward C. Mann, *New York; Assistant Professor of Clinical Obstetrics and Gynecology, Cornell University Medical College; Psychiatrist, New York Lying-In Hospital; Assistant Attending Obstetrician and Gynecologist, New York Lying-In Hospital*

CONNECTICUT DIABETES ASSOCIATION

3:00 Room 107
3:30 Auditorium
President: William MacShepard, *Putnam*
Secretary: James C. Hart, *New Haven*

3:00 Business Meeting

3:30 Diabetes in the Future (Open to the Public)
Elliott P. Joslin, *Boston; Director of Joslin Clinic*

Wednesday, April 27

CONNECTICUT CHAPTER—AMERICAN PHYSICAL THERAPY ASSOCIATION

12:30 SANFORD BARN, HAMDEN
President: W. Gilbert Wolf, *Hartford*
Secretary: Miss Mary Jane Madden, *Manchester*

KINESIOLOGY OF LOWER EXTREMITY
SIGNE BRUNSTRON, *New York; Physical Therapist*

3:30 The group will join the Section on Physical Medicine in Room 108 of the Hamden High School

ANNUAL DINNER OF THE SOCIETY

NEW HAVEN LAWN CLUB
193 Whitney Avenue
New Haven, Connecticut
7:00

PROGRAM

Ellwood C. Weise, Sr., *Bridgeport, presiding*

INTRODUCTION OF NEWLY ELECTED OFFICERS

PRESENTATION OF GUESTS AND DELEGATES FROM STATE MEDICAL SOCIETIES

FIFTY YEAR MEMBERSHIP AWARDS

ROBERT ROBERTSON AGNEW, *Norwich*
PATRICK JOSEPH BRENNAN, *Waterbury*
THOMAS HARMAN DENNE, *West Hartford*
MICHAEL ANTONINO PARLATO, *Derby*
JOHN CARTER ROWLEY, *West Hartford*
WILLIAM HOWARD TREAT, *Derby*
CHARLES HENRY TURKINGTON, *Litchfield*

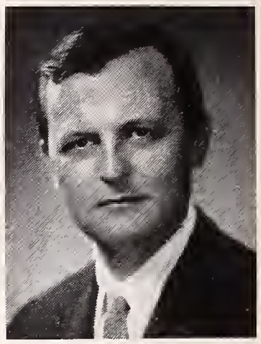
ENTERTAINMENT

Reservation cards for the Annual Dinner will be included with the program of the meeting which will be distributed to all members, wives of members are invited to attend.

Thomas V. Santulli
New York

C. Paul Hodgkinson
Detroit

Gustaf E. Lindskog
New Haven



E. Stanley Crawford
Houston

Thursday, April 28

9:00 Registration—Exhibit Hall

Auditorium

Orvan W. Hess, *New Haven, presiding*

9:15 Film—"Facts About Fall-Out"
(Presented by State Civil Defense Agency)

9:40 Treatment of Congenital Lesions of the Gastro-Intestinal Tract
Thomas V. Santulli, *New York City; Associate Professor of Clinical Surgery, Columbia University; Chief of Pediatric Surgical Service, Babies Hospital, Columbia-Presbyterian Medical Center*

10:20 Stress Incontinence, Diagnosis and Treatment
C. Paul Hodgkinson, *Detroit, Michigan; Chairman, Department of Gynecology and Obstetrics, Henry Ford Hospital; President-Elect, American College of Obstetricians and Gynecologists*

11:00 Intermission to Visit Technical Exhibits

Zeph Lane, *Darien, presiding*

11:30 Exploratory Thoracotomy in Diagnosis of Pulmonary Disease
Gustaf E. Lindskog, *New Haven, Connecticut; William H. Carmalt Professor of Surgery, Yale University School of Medicine; Chief, University Division, Department of Surgery, Grace-New Haven Community Hospital*

12:10 Surgical Consideration in Treatment of Cerebral Arterial Insufficiency
E. Stanley Crawford, *Houston, Texas; Associate Professor of Surgery, Baylor University College of Medicine; Attending Surgeon, Jefferson Davis Hospital, Methodist Hospital, Veterans Administration Hospital, St. Luke's Hospital*

1:00 Luncheon—Cafeteria of the High School
Intermission to Visit Technical Exhibits

Thursday, April 28

PROGRAM ARRANGED BY THE CONNECTICUT SOCIETY OF AMERICAN BOARD SURGEONS CONNECTICUT SOCIETY OF AMERICAN BOARD OBSTETRICIANS AND GYNECOLOGISTS FOR STATE SECTION

Program Chairman: Ira S. Goldenberg, *New Haven*

2:00 Panel Discussion—Urological Problems in General and Gynecologic Surgery

Chairman: A Waite Bohne, Detroit, Michigan; Surgeon-in-Charge, Division of Urology, Henry Ford Hospital

Panel: Harold M. Clarke, New Britain, Connecticut; Attending Surgeon, New Britain Hospital

John P. Gens, Norwalk, Connecticut; Director, Department of Genito-Urinary Surgery, Norwalk Hospital

John McL. Morris, New Haven, Connecticut; Associate Professor Gynecology, Yale University School of Medicine

MEETINGS OF SECTIONS OF THE SOCIETY AND GUEST ORGANIZATIONS

SECTION ON ANESTHESIA

3:30 Room 103

President: Frederick C. Wilcox, Jr., *Bridgeport*

Secretary: Sidney A. Chait, Torrington

Evaluation and Preparation of the Cardiac Patient for Surgery

Vincent J. Collins, *New York; Associate Professor Anesthesiology, New York University, Bellevue Medical Center*

SECTION ON DERMATOLOGY AND SYPHILOLOGY

1:30 Room 108

President: Louis E. Garston, *Torrington*

Secretary: Frank M. Castiglione, *New Haven*

1:30 Business Meeting

3:30 Subject to be announced

Herbert Mescon, *Boston; Professor and Head of the Department of Dermatology, Boston University School of Medicine*

SECTION ON NEUROSURGERY

3:30 Room 106

President: William B. Scoville, *Hartford*

Secretary: Franklin Robinson, *New Haven*

Neurosurgical Approach to Treatment of Parkinsonism

Francis H. O'Brien, *Waterbury; Attending Neurosurgeon, St. Mary's Hospital, Waterbury Hospital*

Thursday, April 28

SECTION ON OBSTETRICS AND GYNECOLOGY

2:00 Auditorium
President: A. Rocky Robertson, *Torrington*
Secretary: Robert H. Wyatt, *Greenwich*

2:00 Joint program with Connecticut Society of American Board Surgeons (See general program)

5:30 Business Meeting—Sanford Barn, Hamden

SECTION ON ORTHOPEDICS

3:30 Room 110
Chairman: Vincent J. Turco, *Hartford*
Secretary: Edmond R. Zaglio, *Manchester*

Program to be Announced

CONNECTICUT SOCIETY OF PATHOLOGISTS

3:30 Room 105
President: Christie E. McLeod, *Middletown*
Secretary: George B. McAdams, *Hartford*

Extra Pancreatic Islet Cell Tumors Associated with Hyper Insulinism

Virginia Kneeland Frantz, *New York; Professor of Surgical Pathology, Columbia University College of Physicians and Surgeons*

CONNECTICUT DISTRICT BRANCH OF THE AMERICAN PSYCHIATRIC ASSOCIATION

3:30 Room 101
President: James C. Johnson, *Hartford*
Secretary: Elias J. Marsh, *Hartford*

Collaboration of Psychiatrist and Internist in the Treatment of a Patient with Valvular Heart Disease

Louis B. Fierman, *New Haven; Assistant Clinical Professor of Psychiatry, Yale University School of Medicine*

Martin Heinemann, *New Haven; Associate Clinical Professor of Medicine, Yale University School of Medicine*

SECTION ON RADIOLOGY

8:15 Fitkin Amphitheater, Grace-New Haven Community Hospital
President: John H. Woodruff, *Hartford*
Secretary: Wayne P. Whitcomb, *New Haven*

Roentgen Features of Uncommon Tumors of the Colon

Bernard S. Wolf, *New York; Director, Department of Radiology, Mt. Sinai Hospital*

SECTION ON UROLOGY

3:30 Room 107
President: David W. Byrne, *Hartford*
Secretary: Robert H. Hepburn, *Hartford*

Subject to be Announced

John K. Lattimer, *New York; Professor of Urology, Columbia College of Physicians and Surgeons*

Thursday, April 28

ASSOCIATION OF MEDICAL EXAMINERS FOR CONNECTICUT

3:30 Room 104

President: Samuel B. Rentsch, *Derby*
Secretary: Edwin R. Connors, *Bridgeport*

DISCUSSION OF CORONER-MEDICAL EXAMINER PROBLEMS
LOUIS W. SCHAEFER, *Coroner, Hartford County*

CONNECTICUT OCCUPATIONAL THERAPY ASSOCIATION

2:00 Room 201

President: Mr. Robert E. Belyea, *Hartford*
Secretary: Miss Anne Herrington, *Newington*

HORIZONS FOR OCCUPATIONAL THERAPY
T. GLYNE WILLIAMS, *New Haven; Assistant Professor of Psychiatry and Public Health, Yale University School of Medicine*

HEZEKIAH BEARDSLEY PEDIATRIC CLUB

3:30 Room 202

President: Herman Yannet, *Southbury*
Secretary: Paul Goldstein, *New Haven*

PROGRAM TO BE ANNOUNCED

ART EXHIBIT
CONNECTICUT PHYSICIANS' ART ASSOCIATION

Chairman: John M. Freiheit

The 1960 exhibit of the Connecticut Physicians' Art Association will be held during the Annual Meeting on the balcony overlooking the exhibit hall of the Hamden High School. Members of the Woman's Auxiliary to the Society will participate in the exhibit and children of members of the Society are also invited to submit entries.

Mark Your Calendar

Connecticut State Medical Society
168th ANNUAL MEETING
April 26, 27, 28, 1960
Hamden High School, Hamden

Plan Now To Save The Dates

Exhibits 1960 Annual Meeting

Space	*Firm*	*Location*
1	W. B. Saunders Company	Philadelphia, Pa.
2	Stiefel Laboratories	Oak Hill, N. Y.
3	The D. G. Stoughton Company	Hartford, Conn.
4	Ciba Pharmaceutical Products, Inc.	Summit, N. J.
5	Organon, Inc.	Orange, N. J.
6	A. H. Robins Company, Inc.	Richmond, Va.
7	The Purdue Frederick Company	New York, N. Y.
8	Connecticut Medical Service	New Haven, Conn.
9	Desitin Chemical Company	Providence, R. I.
10	Geigy Pharmaceuticals	Yonkers, N. Y.
11	Brewer and Company, Inc.	Worcester, Mass.
12	Doho Chemical Corp.	New York, N. Y.
13	Pepsi-Cola Bottlers Association of Connecticut	Hamden, Conn.
14	E. R. Squibb & Sons	New York, N. Y.
15	Eli Lilly and Company	Indianapolis, Ind.
16	The Professional Equipment Company	New Haven, Conn.
17	Seven-Up Bottling Company	Wethersfield, Conn.
18	The International Medical Research Corp.	New York, N. Y.
19	Carnation Company	Los Angeles, Calif.
20	The American Surgical Supply & Equipment Company	Bridgeport, Conn.
21	The National Drug Company	Philadelphia, Pa.
22	U.S. Vitamin and Pharmaceutical Corp.	New York, N. Y.
23	R. J. Reynolds Tobacco Company	Winston-Salem, N. C.
24	G. D. Searle & Company	Chicago, Ill.
25	Warren-Teed Products	Columbus, Ohio
26	Abbot Laboratories	North Chicago, Ill.
27	King Merritt Company, Inc.	West Hartford, Conn.
28	The Upjohn Company	Kalamazoo, Mich.
29	The Stuart Company	Pasadena, Calif.
30	Westwood Pharmaceuticals	Buffalo, N. Y.
31	Sandoz Pharmaceuticals	Hanover, N. J.
32	Office Equipment Dist. Inc.	Hartford, Conn.
33	Surgeons & Physicians Supply Company	Boston, Mass.
34	Thermo-Fax Sales of Connecticut, Inc.	Hamden, Conn.
35	Ayerst Laboratories	Little Falls, N. J.
36	The Baker Laboratories, Inc.	Cleveland, Ohio
37	Smith, Kline & French Laboratories	Philadelphia, Pa.
38	J. B. Roerig & Company	New York, N. Y.
39	Merck, Sharp & Dohme	Philadelphia, Pa.
40	The Coca-Cola Company	Atlanta, Georgia
41	Burroughs Wellcome and Company (USA), Inc.	Tuckahoe, N. Y.
42	S. E. Massengill Company, Inc.	New York, N. Y.
43	Pfizer Laboratories	Brooklyn, N. Y.
44	Arthur W. Eade Insurance Agency	New Haven, Conn.
45	Schering Corp.	Bloomfield, N. J.
46	Wampole Laboratories	Stamford, Conn.
47	Mead Johnson & Company	Evansville, Ind.
48	Roche Laboratories	Nutley, N. J.
49	The G. F. Harvey Company	New York, N. Y.

Exhibit Decorator
Robert E. Stacy, 1090 Page Boulevard, Springfield, Massachusetts

THE SELECTION OF TREATMENT FOR PERFORATED DUODENAL ULCERS*

MARK A. HAYES, M.D.
IRA S. GOLDENBERG, M.D.
CARL S. BRINKMAN, M.D.†

From the Department of Surgery
Yale University School of Medicine
New Haven, Connecticut

THE mortality resulting from duodenal ulcer perforation has steadily decreased over the past 50 years, while the incidence[1] has increased. More individuals, for these reasons, have the opportunity to develop the late sequelae of perforations. It is appropriate to evaluate the various forms of treatment and their late results with a view to determining the most effective means of aiding such patients. This study represents an attempt to evaluate the long term results of patients treated by simple plication of the perforation at the Yale-New Haven Medical Center during the period of 1928-1952 inclusively.

A shorter period review of this material with only the immediate results has already been presented.[2]

Material

During the period of 1928 through July 1952 there were 198 patients treated for acute perforations of duodenal ulcer. Twenty-two of these patients died postoperatively, leaving 176 patients to be followed. There were 21 patients who were lost to a minimum five year followup but the remaining 155 patients were able to be traced with a minimum of five years of observation. The advantage of a long term followup has been shown by Noordijk[3] and Illingsworth[4] since both demonstrated a decrease in favorable results of simple plication from 60 per cent in a one year followup to 30 per cent in a five year period.

Results

Table I
Source of Clinical Material Employed for this Study

Clinical material	155 patients followed 5 years or more
Treatment	
Plication	123
Gastric Resection	32
Resection done for:	perforation and hemorrhage perforation and obstruction

Of the 155 patients followed five years or more, 123 had simple plications and 32 had gastric resections for their perforation. The resections were done for perforation with coexistent hemorrhage or perforation with coexistent obstruction. In no patient was primary resection done for the perforation alone.

Table II
Current Status of Patients Treated Initially by Plication and Followed Five Years or More

Results in 123 patients treated by plication:			
Asymptomatic		25 (20.3%)	54.5%
Symptomatic		61	
Mild	42		
Severe	19		45.5%
Required further operation		37 (30.0%)	

At the time of followup at five years or more, 25 patients of the 123 patients (20.3 per cent) treated by plication for the duodenal ulcer were completely asymptomatic and had been ever since the time of discharge from the hospital. It is important to point out that at no time had there been any recurrence of ulcer symptoms.

Of the 123 patients treated by plication, 61 had experienced continuing symptoms from the time of their perforation. This would mean that roughly 50 per cent of the patients continued to have symptoms after the plication. However, on closely evaluating the severity of the symptoms encountered by these patients, 42 of these patients had symptoms so mild that they did not require medical care supervised by their physician. They noted recurrent symptoms, in general, only after dietary or alcohol indiscretions or emotional crises. They never consulted a physician for their abdominal complaints and managed personally by diet and antacid therapy. Thus, if we include the 42 patients who were mildly symptomatic, never requiring medical care, and the 25 who were completely asymptomatic, 54.5 per cent of the patients can be considered as satisfactory results from the plication of their duodenal ulcer. Of the 123 patients followed, 37 (30.0 per cent) required further operation for control of the disease within the time of their follow-up period. Of the 61 symptomatic patients, 19 required continued medical supervision of their treatment to keep them relatively comfortable. If we then add the 19 severely symptomatic patients to the 37 who required further operation within the period of the follow-up, then 45.5 per cent of the patients could be considered to have been candidates for resection operation because of their basic disease.

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* Read by title at the Annual Meeting of the American Gastroenterological Association, Atlantic City, New Jersey, June 4-6, 1959.

† Present address: Department of Surgery, University of Michigan, Ann Arbor, Michigan.

If one is to embark upon a program of gastric resection as a form of therapy for perforated duodenal ulcer as has been advocated by some authors, it would seem that some historical evaluation of the severity of the ulcer process should be evaluated.

TABLE III

SUGGESTED CRITERIA, TWO OF WHICH MUST BE MET TO SATISFY REQUIREMENTS FOR PRIMARY GASTRIC RESECTION

Criteria for Selection of Patients for Resection Operation

1. Age .... less than 40 years
2. Perforation on good medical program
3. Long difficult history
4. Second perforation

Unequivocal Indication for Resection

1. Perforation with hemorrhage
2. Perforation with obstruction

It is generally accepted that the unequivocal indications for resection are the coexistence of any other major complications of the basic ulcer disease with the perforation. In the clinical experience under discussion, perforation with hemorrhage or perforation with obstruction were accepted as unequivocal indications for resection.

The four criteria, however, upon which a selection of patients conceivably could be based, attempting to separate those that would require further operative treatment for their ulcer disease from those who would not, are listed as follows: The age (considering that patients less than 40 years of age are more apt to have severe ulcer disease), perforation on a good medical program, long difficult history or a second perforation.

Applying these criteria to the original case records of the 123 patients in this study should give us some evaluation of the basis upon which the criteria have been established. If only one criterion had been met by any one of the patients in this group and used as a basis for gastric resection rather than simple plication, only 10 per cent of patients requiring subsequent operation would have been operated. Even more amazing is the fact that using only one criterion alone, 40 per cent of patients who did not require subsequent operations would have been subjected to gastric resection.

The safest approach seems to be the application of two criteria of severity to the patient. If two criteria are applied to this series it will be apparent that 70 per cent of the patients requiring gastric resection would be subjected to the proper form of therapy initially since they would probably have required operation within a period of five years or more. Only 20 per cent or one in five patients, would be subjected to gastric resection unnecessarily.

Parenthetically, it is interesting to look at the 32 patients who had gastric resection for perforation with hemorrhage or obstruction. Of these 32, 12 have failed to regain preoperative weight and three patients are symptomatic from "dumping." In two patients the stomach has been re-resected with a vagotomy because of the development of jejunal ulcer.

Discussion

As surgical techniques have improved, more radical operations appear to become popular. European surgeons[5,6] have long favored gastrectomy as the treatment of choice in both gastric and duodenal perforation. More recently, some American surgeons have followed the trend.[7,8] On the other hand, with the advent of antibiotics to control peritonitis, better fluid therapy and the use of constant suction, conservative therapy (nonoperative) has been advocated[9,10] and in some instances has been widely used.

Questions as to the adequacy of simple plication have arisen mainly on the basis of the extensive late postoperative complications. Around this point lies a tremendous amount of debate and confusion. Large series, such as Noordijk's[3] with percentages of subsequent operation following plication as high as 46 per cent encourages the use of other techniques. Equally impressive, however, is the lower incidence of complications following plications shown by Williams[11] and DeBakey.[12] In the series being presented 30 per cent needed further operation and an additional 15 per cent could be considered as likely candidates for operative treatment.

There are many factors to be examined before the treatment of simple plication should be discarded, if indeed it should be at all. As with the treatment of ulcer itself, a great many failures lie with the patients themselves. Many fail to adhere to a diet, others imbibe excessively, are malnourished or emotionally unstable. Thus, the problem confronting a surgeon seeing a patient with a perforated duodenal ulcer spans the gamut of whether to do on operation at all, a plication or a resection.

Several points are worthy of consideration in respect to the nonoperative treatment as advocated by Mr. Taylor from Great Britain.[10] In his series, it is readily apparent that a high degree of selection is practiced in maintaining the patient on the gastric suction program which he has outlined. Very frequently in the course of management of his patients, he changes from nonoperative to operative treatment in the middle of the clinical course if the patient is not progressing well and showing improvement on the program as outlined by him. It is evident from reviewing his publication that he excludes the moribund patient by selection. It is readily apparent, similarly, that there is an inherent difficulty in the proper management of these patients. The application of the criteria which he uses is a very good one and results, at least in his hands, in excellent results in nonoperative treatment in those cases that meet the criteria and continue to do well on the nonoperative treatment.

If, however, we turn to a consideration of gastric resection as a primary treatment, a significant mortality must be accepted somewhere in the ranges of five to 10 per cent of patients. In addition to the mortality rate, it must be accepted that there is somewhere between three and 11 per cent of the patients who are incapacitated or severely symptomatic from a "dumping" syndrome. Fifty to 70 per cent of the patients are unable to regain their preoperative weight if subjected to gastric resection. Even more significant is the fact that resectional therapy fails in five to 10 per cent of the patients and additional major operative procedure is necessary in an attempt to control the complications and symptoms of the disease.[13]

The Scandinavian surgeons have reported an incidence of 60 per cent obstruction after plication. This was not apparent in our series or in the other published experience from the United States.

Summary

The first admonition that can arise from a discussion of the management of perforated duodenal ulcers is that the physicians caring for these patients recognize their prerogative of being a physician and recognize even more importantly that no single treatment is the best for all patients with any disease. The physician must draw his own conclusions on the nonoperative treatment but at the present time it does not seem to satisfy most requirements for universal applicability to all patients with perforated duodenal ulcer.

If a surgeon embarks upon a program of gastric resection for acute duodenal perforation he can make an attempt by clinical criteria to separate the perforated ulcer case most likely later to require a resection and treat it accordingly. Under these circumstances it is possible to spare about 54 per cent of all perforated ulcer patients from the hazards (mortality and morbidity) of gastric resection.

In this clinic plication of duodenal ulcer perforation and a careful follow-up is the preferred program of management.

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MALIGNANT MELANOMA:

REPORT OF 105 CASES

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In recent years several reports dealing with malignant melanoma have appeared in the literature.[3-16] Eight of these have consisted of more than 100 cases, the largest containing 575 reported by Pack, et al.[11]

In 1951 Adelson[1] reviewed 66 cases of malignant melanoma in adults from this institution between 1930 and 1947. The minimum follow up at that time was four years. The purpose of the present paper is to report an additional 39 instances occurring between 1947 and 1954 and analyze the data obtained from a study of the total group.

Material

This series is composed of 105 cases in which the original miscroscopic slides were available for study. All have known primary sites in the skin. Subungual, ocular melanomas, and lesions arising in mucous membranes were excluded. All slides were reviewed and verified as malignant melanomas. No juvenile melanomas were found in the 105 adults in the series using the criteria of Allen and Spitz.[2] The youngest individuals were 18 and 22 years of age. No adolescent cases were seen. Three instances of melanoma in prepubertal children were encountered but are not included in this report. All cases have been followed for five or more years.

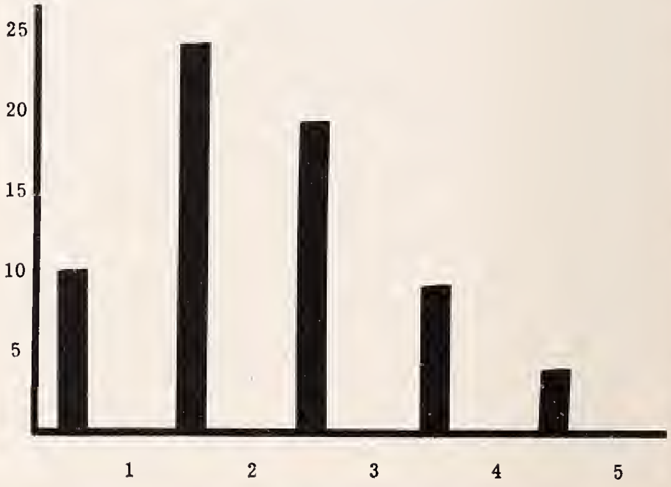
Table I
Malignant Melanoma: 5 Year Survival

	No. Cases	5 Year Survivors	Percent 5 Year Survivors
1930-1947	66	22	33%
1947-1954	39	16	41%
1930-1954	105	38	37%

Results

The five year survival of the 105 definitive cases presented in this report is shown in table I. Thirty-three per cent of the 66 cases previously reported between 1930 and 1947 survived five years whereas 41 per cent of the additional 39 cases between 1947 and 1954 survived five years. The overall five year survival for the entire group is 37 per cent. The distribution of deaths due to melanoma before the end of the five year period is shown in table II. This shows that the greatest number of deaths occurred between the first and third years after diagnosis.

Table II
Deaths Due to Melanoma Up to 5 Years after Diagnosis in 105 Cases



The 22 five year survivors in the earlier group of 66 cases have been followed for varying periods of time up to 25 years. This afforded an opportunity to evaluate long term survival. Three of the 22 survivors were lost to follow up between five and 10 years and of the 19 remaining, three

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- **105 cases of histologically verified primary malignant melanoma of skin in adults treated at the Hartford Hospital between 1930 and 1954 are reported.**
- **Factors contributing to survival and prognosis are discussed. Lesions under 2 cm. have a superior prognosis to lesions greater than 2 cm. Age, sex, location of lesion, history of trauma, and duration have no bearing on the prognosis. Superficiality of histologic features are not a reliable index to prognosis.**
- **No superiority of prophylectic lymph node dissection was seen over wide local excision alone.**
- **Six cases without demonstrable primary site are presented and two were seen to benefit from radical lymph node dissection.**

died of melanoma in this interval. This constitutes a 10 year survival of 30 per cent as compared to the five year survival of 33 per cent. Of the remaining 16 survivors one died of intercurrent disease and three of melanoma after 10 years. This leaves 12 who are alive with no evidence of disease, eight between 11 and 15 years, three between 16 and 20 years, and two between 21 and 25 years. Even if there are no additional deaths due to melanoma among this group the 20 year survival will be 26 per cent as against the five year survival of 33 per cent.

Various authors have attempted to corellate the clinical features of this disease with prognosis. In the previous report, Adelson tabulated sex, age at onset, site, history of trauma, and duration and size of lesion and found that size was the only feature to have a significant corellation with survival. Review of these criteria in the more recent group supports this impression. There were 57 females and 49 males and the mean age was 50. In the original 66 cases, 65 per cent of the lesions were under two cm. in diameter whereas 89 per cent of the additional 39 were under this size. This is consistent with the improved five year survival in the later group. Fifty-three per cent of the cases in the entire group of 105 had lesions less than two cm. and survived five years; whereas none of those with lesions two cm. or greater survived for this period of time.

TABLE III

RESULTS OF TREATMENT IN 39 CASES OF MELANOMA

TREATMENT	NO. CASES	5 YEAR SURVIVORS
Excision only	12	6 (50%)
Excision and prophylactic node dis.	13	7 (54%)
Excision and dissection of clinically involved nodes	12	4 (33%)

The effect of treatment on the five year survival is shown in table III. All but one of the 66 treated between 1930 and 1947 had simple wide excision without node dissection. However, in the recent series of 39, equal numbers were treated by excision, and by excision with discontinuous lymph node dissection. Because of this, the latter group was used for a comparison of the results of treatment. Twelve cases received wide excision alone and six of these (50 per cent) survived five years. Another 13 cases with lesions approximately the same size were treated by wide local excision and discontinuous prophylactic lymph node dissection. Seven of these (54 per cent) survived five years. Another 12 cases had clinically involved lymph nodes and were treated by excision and discontinuous lymph node dissection. Four of these (33 per cent) survived five years.

Discussion

The use of the five year survival as a measure of cure is qualified by the fact that a certain number of individuals, perhaps more than with most other malignant neoplasms, will die of this disease after five years. This tendency for late recurrence was much emphasized in former years and probably accounted for the more pessimistic prognosis given to patients with this disease. Six (13 per cent) of the 46 deaths from melanoma in our earlier group occurred after five years. In a series reported by Lane, et al,[8] 20 per cent of the deaths occurred after five years. Allen and Spitz[2] found that 12 per cent of the deaths due to melanoma in their series occurred after five years. They stated that the five year follow up was a reliable yardstick for evaluation of therapy although survival beyond five years did not constitute a cure.

Table IV
Malignant Melanoma: 5 Year Survival

AUTHOR	YEAR	NO. CASES	SURVIVAL
Pack	1952	575	21%
Sylven	1949	291	30%
Daland	1959	170	52%
Preston	1954	164	15%
Hall	1952	132	28%
Brandt	1956	112	20%
Meyer	1953	107	51%
Lane	1958	105	34%
De Cholnoky	1941	81	42%
Catlin	1954	80	36%
Stewart	1953	78	24%
Lund	1955	73	26%
Raven	1950	72	9%
Royster	1957	66	39%
			29%

Table IV demonstrates the variation in survival from different institutions. This may be explained by the differences in the stage of the disease, or size of lesion prevailing in the cases studied. For example, 26.7 per cent in the series of Pack, et al,[11] had such advanced disease when first seen that they were declared incurable. This is reflected in their 21.4 per cent five year survival. If the percentage of lesions above and below two cm. are correlated with five year survival, a decrease in survival occurs with an increase in percentage of lesions over two cm. This has been shown in a comparison of our earlier with our more recent group. In the series of Lane, et al,[8] 38 per cent of the lesions were under two cm. and the five year survival was 34 per cent. Lund and Ihnen[9] found only 25 per cent of the lesions were under two cm. and the five year survival was only 26 per cent. The poor prognosis for lesions larger than two cm. has been emphasized by the fact that none of the cases in our series with lesions of this size survived five years. Lane, et al,[8] reported 68 per cent of lesions under two cm. surviving five years and only 18 per cent of those over two cm. surviving that length of time. It is apparent from these figures that the average size of the lesions in our series is smaller than is reported by most other authors. It is felt that this may be due to the very high percentage of private cases in this institution and hence a reflection of a moderately high economic level in the group as a whole.

The results of treatment show no advantage of excision with prophylactic node dissection over wide local excision alone. Lane, et al,[8] also found that the survival of the groups treated by these two methods was comparable. However, they concluded that prophylactic lymph node dissection was valuable because in 47 per cent of the cases so treated, occult microscopic tumor was found in the lymph nodes. In only one (seven per cent) of our 13 cases having prophylactic node dissection was tumor found in nodes. Stewart, et al,[15] found 50 per cent of nodes involved in prophylactic node dissections, Preston, et al,[12] 42 per cent and Meyer and Gumpert[10] 28 per cent. These authors point out that multiple sections of each node must be examined if an accurate estimate of the incidence of node involvement is to be made. This was not done in our cases and undoubtedly contributes to the low incidence found. In spite of this, if the advantage of prophylactic node dissection is to be based on the high incidence of occult tumor in the nodes, then it must be assumed that since the cases treated by excision alone were comparable in size, they too must have had occult tumor in lymph nodes. Furthermore, the survival of these two groups is comparable in our series and in those of other authors. From this, one must conclude that at least some of the occult tumor in the nodes of the cases receiving simple excision never gives rise to metastatic disease, or by the same token the tumor observed in prophylactically removed lymph nodes is non viable, or at least incapable of giving rise to metastatic disease. It is our impression that our figures and those of other authors show no superiority of prophylactic node dissection over wide local excision. It is generally agreed that once lymph nodes become clinically involved by metastases the prognosis is much worse and our figures are in accord with this. We have had very little experience with amputation and radical quarterectomy has never been used in this institution.

During the review of the slides from the 105 definitive cases an attempt was made to predict which cases would have a superior prognosis on the basis of histologic features. This was based on the relative superficiality of the lesion and also the preponderance of lateral junctional spread over dermal invasion as described by Lane, et al.[8] The individuals reviewing the slides had no knowledge of the outcome of any of the cases. Despite the fact that 38 cases survived five years, only 13 were selected as having a good prognosis. Three of these died within two years of metastatic disease. Thus, less than half of the cases surviving five years had lesions with histologic features suggesting a favorable prognosis while several who succumbed to the disease had histologically favorable lesions. We do not feel that the prognosis in a given case can be predicted on the basis of histologic features with sufficient accuracy to be of clinical value.

Six cases, excluded from the definitive group, with metastatic melanoma in lymph nodes but without a demonstrable primary site are worthy of discussion. In spite of the absence of known primary site, three of these underwent radical lymph node dissection and two are still living with no evidence of disease for seven and five years. The third died at 1½ years of widespread disease. The other three cases were treated by excision of the involved node only and these died, two at six months and the other at two years. In spite of the poor prognosis already indicated when there is clinical lymph node involvement, node dissection should not be abandoned in the absence of a demonstrable primary site.

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Great people are not affected by each puff of wind that blows ill. Like great ships, they sail serenely on, in a calm sea or a great tempest.

—GEORGE WASHINGTON

THE UROLOGIC CURE OF HYPERTENSION

• Many hypertensive patients should be suspected of having an underlying curable urologic disease . . .

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The wide-spread occurrence of hypertensive vascular disease among the general population has lead to the expenditure of great effort in accumulating laboratory and clinical data in this field. Unfortunately, these efforts have not yet produced a complete understanding of hypertensive vascular disease, nor has any universal remedy been evolved.

While the mechanism and pharmacology of hypertensive vascular disease generally remain obscure, it is recognized that there are certain urologic causes of hypertension which are amenable to surgical cure. Underlying urologic disease as the cause of hypertension may exist in as many as five per cent of all hypertensives.[1] Undoubtedly, many curable urologic lesions which lead to hypertension remain unrecognized clinically.

Since surgical cure may be afforded a great number of these patients with hypertension secondary to urologic disease, it is axiomatic that urologic evaluation of the hypertensive patient is necessary. Urologic surgery affords the possibility of cure of hypertension in a greater percentage of patients than does any other form of surgery. While some of the newer antihypertensive drugs are extremely effective in relieving the *symptoms* of hypertension, no drugs are effective in *reversing* the underlying causes of hypertension.[2]

Historical Background

Renal disease has been recognized as a precipitating cause of hypertension since the original work of Richard Bright in the field of nephritis. While not having the advantage of apparatus for measurement of blood pressure, Bright thoroughly described the gross changes in the heart and major vessels of patients afflicted with chronic renal disease. These changes typified the secondary vascular manifestations of hypertension.[3]

As early as 1897 experimental efforts were made to include hypertension through the production of hydronephrosis.[4] Thorough analysis of the pathologic and physiologic changes associated with hydronephrosis was carried out during the early part of this century[5,6] and Hinman,[7,8,9] Deming,[10] and Kerr, [11,12] have further elaborated the renal changes of hydronephrosis and the associated vascular changes. There are typical secondary vascular changes in hydronephrosis, undoubtedly the antecedents of hypertension when it occurs.[13]

Three decades ago, the classical experimental work of Goldblatt and his colleagues[14] indicated that renal arterial disease was a probable major factor in hypertension. The production of renal ischemia through partial renal artery obstruction was found to lead to varying degrees of hypertension.[15] Other experimental methods of production of renal ischemia were introduced, again resulting in hypertension.[16] The relationship of renal infarction and major renal artery disease to hypertension has been further investigated more recently with improved angiographic techniques.[17,18,19]

Unilateral renal disease other than that of arterial origin has also been implicated as a cause of hypertension. Unilateral chronic atrophic pyelonephritis is a common cause of hypertension,[20] while simple unilateral pyelonephritis, stone, or renal anomaly are not likely to produce secondary hypertension.[21,22] Torsion of the renal pedicle with secondary intermittent ischemia of the kidney may simulate arterial occlusion with hypertension,[23] and infarction of renal parenchyma by tumor, abscess, or trauma may lead to hypertension.

Unfortunately, a great many cases of hypertension may also be due to bilateral renal disease for which there is no surgical solution.[24] Arteriosclerosis and/or anteriolonephrosclerosis were found universally in a series of 1,000 autopsies of hypertensives. Polycystic disease is almost always associated with terminal hypertension as well as uremia. Acute and chronic glomerulonephritis carry an equally high incidence of hypertensive disease.[25] Many systemic diseases, such as diabetes and the collagen diseases often result in renal vascular changes and the production of hypertension.

Mechanisms of Disease

The exact mechanism of the renin-angiotensin system is still not understood. Until the methods of assay of renin are more thoroughly developed this humoral factor can only be inferred when hypertension exists. Experimental work[26] indicates that the humoral renin-angiotensin mechanism is at fault rather than neurologic abnormalities. The humoral mechanism is undoubtedly activated by a host of causes prominent among which are the curable urologic lesions.

Relative unilateral renal ischemia secondary to chronic atrophic pyelonephritis results from secondary vascular manifestations in the kidney.[27] In addition to the changes in the pyelonephritic kidney, irreversible changes occur in time in the contralateral kidney. However, in early cases of atrophic pyelonephritis, contralateral irreversible vascular changes may not have occurred and nephrectomy can result in complete relief of hypertension.[28]

Renal ischemia may also be brought about by embolism,[29] anteriovenous aneurysm[30] or fistula,[31] and arterial or venous obstruction.[32, 33] Originally it was felt that renal ischemia would produce hypertension only when a sufficient mass of kidney tissue was infarcted. It now appears that this is not the case, and that *relative* ischemia of any portion of renal substance may activate the renin-angiotensin system. Such relative ischemia can be brought about by coarctation of the aorta as well as by local renal disease.[34] It is interesting to note that pathologic examination reveals that the ischemic kidney may often be protected from the secondary vascular changes which are seen in the contralateral kidney.

The ischemic changes of hydronephrosis and the relationship of hydronephrosis and arterial obstruction in hypertension have not been clearly defined. Work is now in progress in this laboratory to clarify these problems.*

Certain adrenal tumors are also known to initiate hypertension. Investigations of Cushing's disease, pheochromocytoma, and benign or malignant adrenal tumors have relegated these conditions to the realm of surgically curable hypertension.

TABLE I
UROLOGIC CAUSES OF HYPERTENSION

- Bilateral Renal Disease
  - Polycystic disease
  - Pyelonephritis
  - Glomerulonephritis
    - acute
    - chronic
  - Systemic disease with renal changes
- Unilateral Renal Disease
  - Chronic atrophic pyelonephritis
  - Hydronephrosis
  - Primary renal malignancies
  - Infarction
    - other than vascular
- Adrenal Disease
  - Pheochromocytoma
  - Paraganglionoma
  - Adenoma
  - Carcinoma
  - Hyperplasia
- Renal Vascular Disease
  - Arterial occlusion
    - partial
    - complete?
  - Venous obstruction
  - Arteriosclerosis
  - Arteriolonephrosclerosis
  - Aneurysm
  - Arteriovenous fistula

In Table I the various urologic causes of hypertension are classified. Bilateral renal congenital disease as well as bilateral acquired renal disease offer little possibility of cure. However, hypertension due to unilateral renal disease either vascular or parenchymal may be approached surgically.

Urologic Evaluation

The problem of urologic evaluation of the hypertensive patient is not an insurmountable one. Though it is known that many hypertensives may be benefited by urologic surgery, the complete urologic evaluation of every hypertensive patient would seem to be a tedious and time consuming procedure. Certain criteria must therefore be established for the evaluation of hypertensive patients.

Urologists and internists agree that there are certain fundamental aspects of hypertension which demand urologic survey. First and foremost among these is a history of any renal disease preceding the onset of hypertension. Such renal diseases may or may not be unilateral, but must be investigated. Flank pain, leucocytosis, albuminuria, and polyuria may be the first signs of renal artery occlusion.[35]

Further, the "young hypertensive" must always be evaluated urologically. Urologic survey is mandatory when the hypertension has its onset before the age of twenty years, and in any hypertensive patient under 35 years of age, the suspicion of unilateral renal disease should be entertained.

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The rapidity of onset of hypertension is extremely important. A patient showing pronounced elevation in blood pressure above the high normal of 140/90 with known onset within a matter of months should always receive careful consideration. This is particularly true if the rapid onset of hypertension is accompanied by headache, retinal changes, or indications of generalized renal insufficiency. Such rapid progression is more indicative of unilateral renal disease than bilateral renal disease.[36]

Similarly, the rapid acceleration of known hypertension should be investigated urologically. The hypertensive patient who suddenly enters the "malignant phase" with markedly elevated diastolic pressures, evidence of encephalopathy, and severe retinopathy may have suffered sudden renal arterial or venous obstruction.

Finally, as indicated in Table II, there are certain clinical indications for evaluation which must be considered. Patients with known abdominal or flank trauma who subsequently develop hypertension are prime suspects for unilateral renal disease as the cause of hypertension. Patients with abnormal urinary sediment or albuminuria must also receive preliminary evaluation.

TABLE II
INDICATIONS FOR COMPLETE UROLOGIC SURVEY

- History of renal disease or trauma
- Acute onset of hypertension
- Hypertension under 35 years of age
- Rapid acceleration of known hypertension
- Idiopathic hypertension

Investigative Methods

The methods of urologic diagnosis in hypertension are relatively well established. No study of renal function can be better than its interpretation and these tests must of necessity be accomplished and interpreted by competent and qualified individuals. Furthermore, in order that optimum information may be obtained about the patient with minimum effort by the investigator, it is critical that the steps in the survey be taken in a logical manner. Table III indicates not only the appropriate clinical and laboratory tests which may be accomplished, but also a logical order in which they may be accomplished. This sequence also represents to a certain extent the relative expenditure of time, effort, and funds in deriving the desired information.

TABLE III
UROLOGIC EVALUATION OF THE HYPERTENSIVE

- Blood chemistries
  - BUN
  - NPN
  - creatinine
- Clinical tests
  - PSP
  - TEAC
  - regitine
- Urography
  - plain film
  - excretory urogram
  - retrograde pyelogram
- Differential function studies
  - volume
  - sodium
  - urea
  - inulin
  - PAH
  - PSP
  - Creatinine
- Differential radioactive iodides
- Renal angiography
  - translumbar
  - femoral
  - intravenous
- Retroperitoneal air studies
  - perirenal
  - presacral
- Endocrinologic assay
  - ketosteroids
  - hydroxysteroids
  - catecholamines
- Renal biopsy
  - needle
  - surgical

The preliminary evaluation may begin with laboratory determinations of blood urea nitrogen (BUN), non-protein nitrogen (NPN), and creatinine as measures of renal function. The phenolsulfonphthalein test (PSP) is a simple and accurate measure of renal tubular function. If pheochromocytoma is suspected the regitine or histamine "aggravation" tests may be employed.

Recently the tetraethylammomium chloride (TEAC) test has received renewed interest. TEAC or "Etamon" is known to accentuate hypertension due to pheochromocytoma, but it also appears to have a blocking or depressor effect when the blood pressure elevation is due to unilateral renal disease.[37]

Urography must begin with a plain X-ray of the abdomen for size, shape, and position of kidneys, as well as to rule out stones. This is followed by excretory pyelograms using one of the newer and less allergenic intravenous iodide preparations. Some estimation of relative renal function can be made by intravenous study, and the diagnosis of pyelonephritis, hydronephrosis, tumor, aneurysm, or cystic disease can be made. A nonfunctioning kidney raises the possibility of either vascular or ureteral occlusion.

In many instances, it is necessary to proceed with retrograde pyelography. While it is desirable to eliminate this step if possible, excretion and concentration may be unsatisfactory for complete visualization of the upper tracts. The non-functioning kidney, the poorly-functioning kidney, and the distorted kidney must be studied by retrograde methods for adequate diagnosis. At the time of retrograde pyelography, differential renal function studies are indicated. Measurement of differential volumes and sodium excretions are often beneficial, as elucidated by Howard et al.[38] It has also been demonstrated that differential PSP function studies are of infinite value in determining the relative status of the two kidneys. Urea, inulin, para-amino hippurate (PAH) clearances are of some value but are more difficult to determine.

A relatively new and extremely effective screening procedure for unilateral renal disease is the differential radioactive diodrast study. In such tests, very small quantities of radioactive iodide are injected intravenously and radioactivity counts are obtained over each renal area using an external scintillometric apparatus which allows comparison of the radioactivity curves of the two kidneys. The curves of radioactive iodide uptake and clearance are well established and variants of the curve can be correlated with patterns known to represent hydronephrosis, chronic atrophic pyelonephritis, or vascular obstruction.[39]

The most conclusive test for renal vascular disease is renal angiography. Renal angiograms are obtained in a number of ways, but the simplest and most direct method of visualization of the renal arteries and its branches is direct percutaneous translumbar aortography. The needle is introduced at the level of the renal arteries and a small quantity (about 10 cc) of the usual intravenous iodide compound (Hypaque or Miokon) is injected. Such angiograms are diagnostic in over 90 per cent of the cases. In addition to this direct method, retrograde femoral catheterization for aortography is also utilized and newer techniques include the injection of large quantities of high iodide content substances directly into the venous circulation. In the venous techniques the bolus of contrast material reaches the renal area in the usual circulation time and films often outline the gross detail of renal circulation. However, detail is insufficient in such films to allow adequate evaluation of possible renal infarction, tumor, or aneurysm.

If renal or adrenal tumor is suspected, retroperitoneal gas insufflation studies are of value. The work of Harvard and his associates[40] indicates that injection of large quantities of carbon dioxide into the retroperitoneal space is an innocous procedure. This may be accomplished either by the presacral or translumbar approaches.

When the investigator suspects a functional tumor of the adrenal or paraganglion tissue, endocrine assays are of utmost importance. The regitine test, histamine test, and TEAC test provide diagnostic clues as indicated above. Collection and measurement of 24 hour urinary steroids or catecholamines should be conclusive and diagnostic in the matter of functional tumors.

Percutaneous needle biopsy or open biopsy of the kidney is rarely indicated in the diagnosis of urologic causes of hypertension. Such biopsies may be helpful however in differentiating the various systemic diseases which lead to hypertension, such as amyloidosis, diabetic nephropathy, lupus erythematosis, or the other collagen diseases which produce renal changes and secondary hypertension.

Urologic Surgery in Hypertension

Fortunately urologic surgery today offers the possibility of cure of hypertension in many instances. While other forms of surgery are employed to palliate hypertension, only those patients with curable urologic disease stand to be completely relieved of their hypertension through alleviation of the precipitating cause.

In unilateral renal disease such as chronic atrophic pyelonephritis, early nephrectomy may reverse to hypertension.[41] Similarly nephrectomy is often indicated in tumor, vascular obstruction, hydronephrosis, aneurysm, fistula, and infarction. Surgical removal of functioning adrenal and paraganglion tumors also offers complete relief of hypertension.

With techniques improving, it now appears that a certain number of patients with unilateral renal vascular disease may be cured by measures other than nephrectomy.[42] Aneurysm of the renal artery may be resected, with resultant decrease in hypertension, and endarterectomy, arteriography, and embolectomy have been accomplished with success. Fistulas may be repaired by relatively simple vascular techniques.

Finally, revascularization of the kidney by replacement of diseased or obstructed renal arteries may be accomplished and appears to be rational therapy since only the obstructed kidney may have been protected against secondary hypertensive changes. Renal artery homografts have been utilized, and the use of arterial substitutes offers great possibilities. In addition, shunting procedures have been advocated and employed with some success in spleno-renal arterial anastomosis.[43,44]

The possible surgical cure of hypertension due to the urologic cause is outlined in Table IV. The obvious prerequisite to surgical management of the lesions producing hypertension is an adequate and careful urologic evaluation of the hypertensive patient.

TABLE IV
THE UROLOGIC "CURE" OF HYPERTENSION

Nephrectomy
Endarterectomy
Aneurysmorrhaphy
Fistulectomy
Arterial replacement

It is apparent that every hypertensive patient must be screened by the family physician and appropriately selected for urologic evaluation. Because of the wide-spread incidence of hypertension, the frequent occurrence of urologic cause, and the availability of surgical methods of cure, physicians and surgeons alike must remain alert to the possibilities of underlying renal disease in every case of hypertension encountered.

Summary

1. Hypertensive vascular disease affects a large segment of the population and generally speaking can be treated only symptomatically.
2. Curable renal disease, however, may be the underlying cause of hypertension in a large percentage of patients.
3. Many hypertensive patients should be suspected of having an underlying curable urologic disease, and the excellent urologic diagnostic techniques available should be utilized.
4. Urologic surgery offers possible cure in many cases of hypertension.

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Knowledge comes, but wisdom lingers.—Tennyson

RENAL AND ADRENAL PATHOLOGY IN HYPERTENSION

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THE pathological aspects of the kidney and adrenal in relation to hypertension have been studied with use of material largely from Dr. Smithwick's and his associates' sympathectomy cases.

Approximately 1,800 kidney biopsies were reviewed from this material as unknowns, without knowledge of the clinical history, and afterwards the other material was correlated to make a clinicopathological study.

The kidney biopsy obtained by Dr. Smithwick and associates is removed by an open surgical technique. It measures approximately 12 x 15 x 4 mm., providing an adequate amount of tissue including about 40 glomeruli in any one section (Fig. 1). In discussion of the changes found in these biopsies, one must realize that by their nature, the biopsies being of cortical tissue, any changes observed would have to be in the renal cortex and fairly diffuse throughout the kidney.

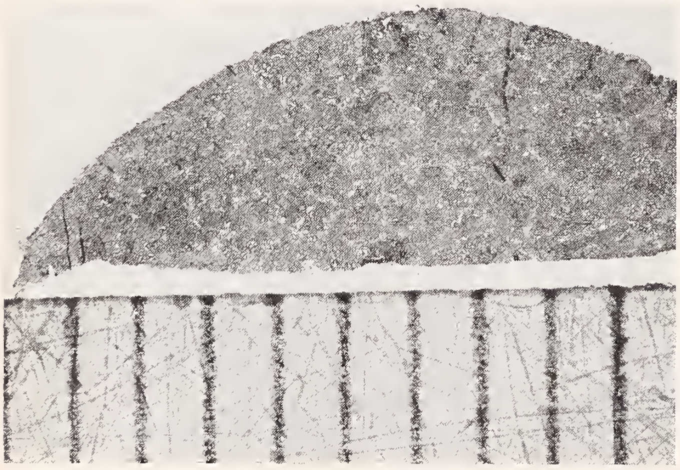

Figure 1
Portion of a surgical kidney biopsy with a millimeter rule to show dimensions of the specimens.

In the series now about 1,430 patients have been analyzed. In a little over 1.5 per cent there were no disease changes found in the kidney. This supports the idea of Castleman and Smithwick that, therefore, the kidney could not be the primary cause of hypertension, at least in a proportion of the cases. Since most patients operated were not early cases, one might expect a higher percentage of morphologically normal kidneys in the whole clinical hypertensive group. Most biopsies showed renal arteriolar sclerosis, the changes of essential hypertension, most frequently of a moderate grade. There was fibrinoid as seen with malignant hypertension in 1.6 per cent. Only vascular disease was found in about 83 per cent of the cases.[1]

The earliest change seen in the kidney is not in the arterioles, but in the convoluted tubules. These show a bulging of the epithelium, known as cloudy swelling (Fig. 2). It would not be a very significant finding except that the histology otherwise is of very good quality, because the kidney biopsies were dropped immediately into fixative in the oper-

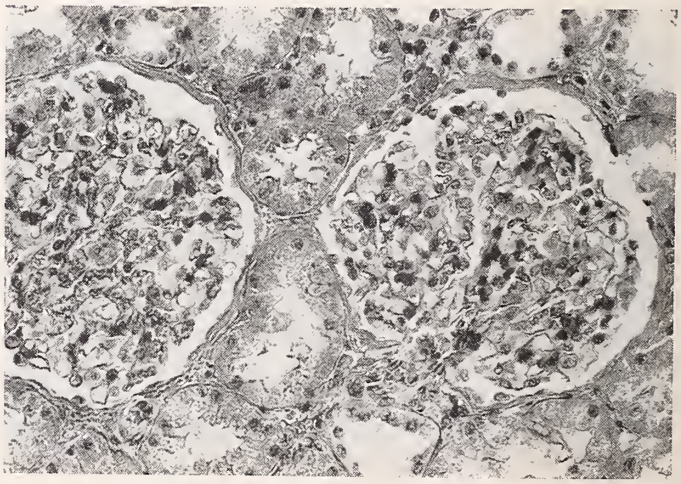

Figure 2
Cloudy swelling and slight dilatation of convoluted renal tubules, associated with normal glomeruli. A normal arteriole and juxtaglomerular apparatus are shown with the right-hand glomerulus. From a hypertensive patient. H & E, x 180.

ating room. Now that these are used for electron microscopy, one has to fix the tissue within two minutes of its removal from the body. Taking cloudy swelling as a real change, one finds in the literature that animal experiments in which ischemia is produced in the kidney for periods of 6-10 minutes or more will exactly imitate this change. The convoluted tubules are a little dilated, a change also produced by ischemia, or anoxia. Both are reversible changes.[2] A similar change has been produced in experimental animals by vagotomy, suggesting that this change may have something to do with a preponderance of sympathetic nervous stimuli.

Throughout the whole series of cases arranged by increasing grades of arteriolar sclerosis, the most common changes were in the tubules, and consisted of cloudy swelling, slight or definite dilatation, or atrophy. These tubular changes in the most severe grades of arteriolar sclerosis approached 100 per cent, and in the kidney least affected by arteriolar sclerosis were about 50 per cent. One could infer from animal experiments extrapolated to human material that ischemia of the kidney, or its morphologic effects, is the most frequent change found in kidney biopsies from people with hypertension.

A synthetic scheme of the development of vascular changes in the kidney of persons with hypertension involves the sequence of contraction, which seems to be spastic, and next edema in arteriolar walls, particularly those afferent to glomeruli. Then muscular hypertrophy develops, followed finally by replacement of the small vessel walls by fibrous tissue and its hyaline degeneration (Fig. 3). One should emphasize that there is no human material showing any definite chronological series of changes from contraction to final fibrosis. Since the lesions of arteriolar sclerosis in the kidney are variable and localized except in the final stages, grading it is a somewhat subjective process, and an attempt is made to find an average of the vascular changes throughout the kidney biopsy.

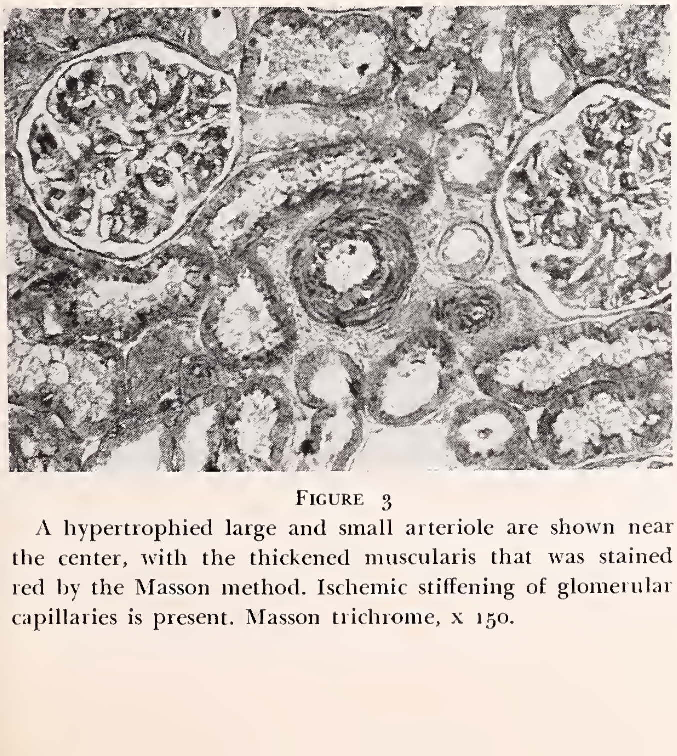

FIGURE 3
A hypertrophied large and small arteriole are shown near the center, with the thickened muscularis that was stained red by the Masson method. Ischemic stiffening of glomerular capillaries is present. Masson trichrome, x 150.

Ischemic changes develop in glomeruli secondary to arteriolar nephrosclerosis. They become somewhat stiffened, simplified and in the end stages the whole glomerulus wilts and atrophies.

If the juxta-glomerular apparatus alterations are examined, because of the theory that this is where renin may be manufactured and cause hypertension, an enlargement and definite alteration in the juxtaglomerular apparatus cells is found only in a very small number of the kidney biopsies in all grades of arteriolar sclerosis, reaching a maximum of about 30 per cent in the grade II-III group. Each kidney specimen was given a definite grade, but there were bilateral biopsies from a certain number of patients with one biopsy graded as II and the other as III; these form the intermediate groups. The findings in the juxtaglomerular apparatus would not support it as having any great importance in biopsy material in the origin of essential hypertension.

The effect of arteriolar sclerosis eventually is to hyalinize and cause complete atrophy of a certain number of glomeruli. Even in the most severe grades of arteriolar sclerosis, among 15 glomeruli counted in each biopsy, only about eight per cent of the total were hyalinized, so that glomerular damage even in the most severe grades of arteriolar sclerosis never became an important problem, even though half or more of the kidney biopsies showed some hyalinized glomeruli.

In the interstitial tissue there were scars and lymphocytic aggregates. Once lymphocytic aggregates were considered as evidence of chronic pyelonephritis. It is now realized that lymphocytes will collect in atrophing organs without the evident intervention of any bacterial or other infectious type of inflammation. In this series the scars and lymphocytic aggregates were considered simply evidences of atrophy due to a reduction in the blood supply to certain parts of the kidney. Such scars and lymphocytes became very common in the higher grades of arteriolar sclerosis, 65 to 80 per cent of cases in grades II and III.

Fibrinoid necrosis has been the pathologist's evidence of malignant nephrosclerosis. In the walls of arterioles, fibrinoid stains rather like the fibrin found in clots in the lumen of small vessels. Just what fibrinoid consists of is a matter of argument. The material reviewed in this study suggested that it may well have penetrated through the vessel wall by an imbibition of fibrinogen, which then became precipitated in the wall as fibrin. Later enzymatic activity perhaps altered its staining properties, changing fibrin into fibrinoid, a degenerated partly hydrolyzed fibrin. This theory has also developed from work of Craig and Gitlin on a certain number of other diseases in which there is fibrinoid necrosis. Fibrinoid necrosis in this series was found in the vessel walls of all grades of arteriolar sclerosis (Fig. 4). Therefore, it was not purely restricted to the most severe or grade III arteriolar sclerosis. When analysed for the five year survivals, patients with arteriolar sclerosis and fibrinoid necrosis did just as well as people with the same grade of vascular disease without fibrinoid necrosis. This suggests what has already been written by others, that fibrinoid necrosis simply reflects an exaggeration or an acceleration of local vascular damage, that it is not irreversible, that it is not a sign of a lethal outcome and is reasonably reversible if you can do something for the patient, either surgically or medically, to reverse the exacerbation of arteriolar damage.

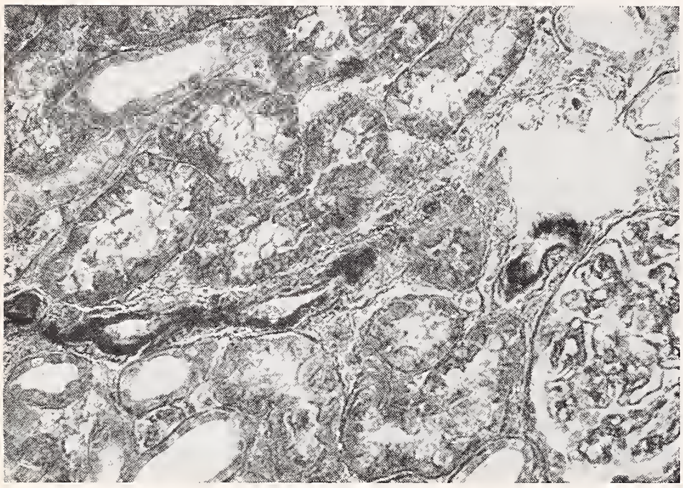

FIGURE 4
Fibrinoid deposition in an arteriole with slight sclerosis (Grade I). The relation of fibrinoid, shown as black regions, to the vascular lumen suggests its deposit by imbibition. H & E, x 150.

A certain number of the cases of different grades of arteriolar sclerosis who had sympathectomy and kidney biopsy were followed for their five year survival. In support of clinical studies by Dr. Smithwick and associates and by Dr. Paul White, they turned out to be a relatively sturdy group of people, since over 90 per cent of all grades of arteriolar sclerosis were still alive at five years, with the single exception of grade III arteriolar sclerosis, in which about 50 per cent were surviving.[3] From the point of view of prognosis, it appeared that the main value of grading arteriolar sclerosis from a kidney biopsy was to determine whether the patient had grade III, the most severe, arteriolar sclerosis, in which case the prognosis would be less favorable.

In this series of cases, there were 15 per cent who had pyelonephritis. Their arteriolar sclerosis was mostly moderate or of grade II. This is about the same incidence of pyelonephritis accompanying hypertension that has been reported by Parker and Weiss and others from autopsy material. Neither of these methods will accurately determine the number of patients with both pyelonephritis and hypertension among living persons. Pyelonephritis was recognized by the dilatation of renal tubules containing colloid casts, scarring with infiltration of lymphocytes and plasma cells in the interstitial tissue, and a certain varying amount of arteriolar sclerosis (Fig. 5).

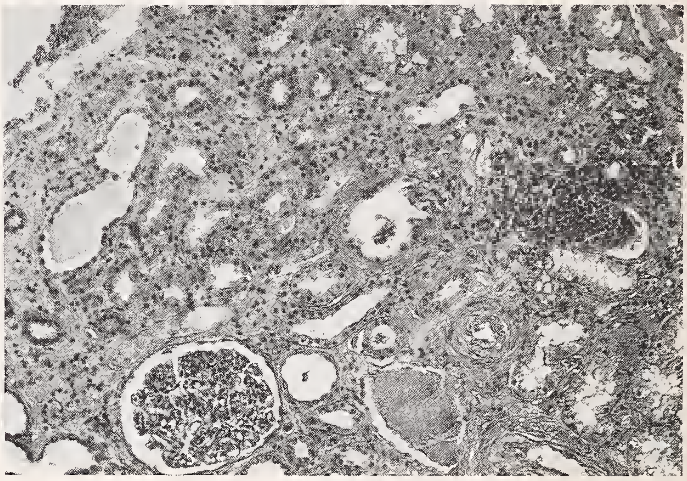

FIGURE 5
Chronic pyelonephritis is evident, with a scarred area and dilated tubule containing a colloid cast at the upper left. Chronic inflammatory exudate is present at the right, and below this a vessel with moderate arteriolar sclerosis (Grade II) is seen. H & E, x 120.

Analysis of blood pressure has the following interesting aspects. In pure arteriolar sclerosis without other kidney disease, there was a statistically significant difference in the diastolic blood pressure which was directly related to the grade of arteriolar sclerosis, probably not biased, because one did not know the blood pressures until after the gradings were made. Similarly in pyelonephritis with the exception of the difference between grades I and II arteriolar sclerosis, there was a significantly higher diastolic pressure with the highest grade of arteriolar sclerosis than with the lower grades. The third statistically significant difference by the t-test was that with pyelonephritis and the same grade of arteriolar sclerosis there was significantly higher diastolic blood pressure than with nephrosclerosis alone. For unknown reasons pyelonephritis seems to exaggerate the rise in diastolic blood pressure and this is a statistically significant difference.[4]

Five year survivals of patients with pyelonephritis were significantly worse than for cases with hypertension and pure arteriolar sclerosis. The total survival with pyelonephritis was about 60 per cent at five years, and as a group patients with chronic pyelonephritis did only about as well as those with essential hypertension who had the most severe grade of arteriolar thickening and degeneration.

Among rare types of hypertension showing changes in the kidney biopsy, there were 10 cases with pheochromocytoma and kidney biopsies. With pheochromocytoma the damage was more severe in small renal arteries and not so severe in arterioles. This arterial lesion seems to be reversible, based upon the clinical course after removal of the pheochromocytoma and upon two cases with repeated kidney biopsies several years after the first operation.[5]

The adrenal in relation to hypertension has been studied, using about 80 cases from Dr. Smithwick's material in which adrenalectomy or removal of an adrenal tumor had been carried out. When examined by cell counts per surface area of the cortical zones, the only significant difference found in the patients with hypertension having otherwise normal adrenals removed was that the zona glomerulosa was narrower and its cells smaller than in the control material. Information of Deane and Greep indicates that on this basis people with essential hypertension probably have an excess of sodium in their intercellular fluids.

Eighty adrenalectomized cases and 220 autopsied cases with hypertension were compared as regards other adrenal findings with 220 autopsied cases without hypertension. In the adrenalectomy series 20 per cent of the cases had genuine adenomas, larger than socalled cortical nodules, single, and not reproducing the zonation of the normal adrenal cortex. In the autopsied series also 20 per cent of hypertensive persons had adrenal adenomas, and this is 10 times the incidence found in a control series of autopsied cases without hypertension, which correlates with findings in autopsy series by others in the literature. Only five per cent of these adrenal adenomas were shown to be producing aldosterone (Fig. 6). Many of the cases are old, but review of all available material did not support likely hyperaldosteronism.[6] This suggests that there is room for considerable further research in finding other steroids produced by these adenomas which encourage hypertension.

The fact that 20 per cent of people with hypertension have an adrenal adenoma might be a therapeutic situation. We are at present reviewing with Dr. Dera Kinsey the follow-up of patients who had adenomas removed, versus those who had normal adrenals removed, and we get the impression that people who have had adrenal adenomas removed for hypertension do better as a group than one would expect.

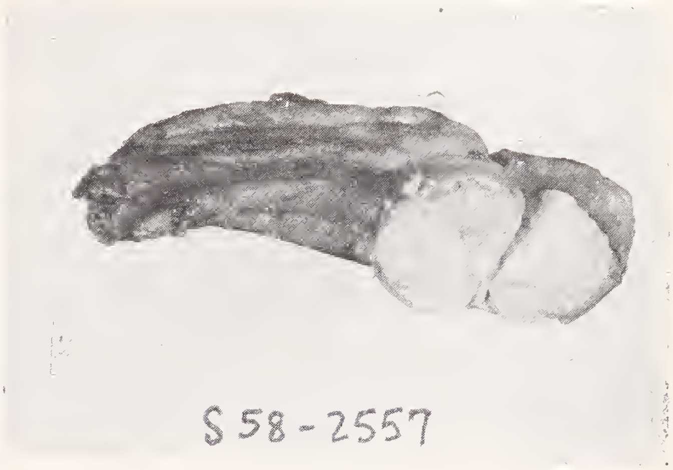

Figure 6

Adrenocortical adenoma from a case of primary hyperaldosteronism. It was a bright orange-yellow flattened mass of firm homogeneous texture.

Questions

Dr. Spinner asked whether there are two humoral factors in essential hypertension: (a) a pressor factor, and (b) a necrotizing factor with a variable percentage of activity in each case. Quoting mainly from literature, I believe most now would accept a pressor factor in essential hypertension, of renin-angiotonin type, and perhaps a smaller number would accept the VEM-VDM mechanism of Shorr. There is not to my knowledge a necrotizing factor. When one gets necrosis in essential hypertension, it is due to complete vascular occlusion cutting off the blood supply. On the other hand there are hypertensions in which there may be a necrotizing factor, in particular with toxemia of pregnancy.

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MANAGEMENT OF THE SURGICAL COMPLICATIONS OF PREGNANCY

. . . The operative indications for the treatment of the acute surgical complications of pregnancy should be promptly carried out. But the pregnancy should not be disturbed . . .

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The reproductive life of woman is commonly about 30 years from the age of 15 to the middle forties. She is of course subject to all the diseases of individuals of that age group whether she be pregnant or not. Thus it frequently happens that she suffers from these illnesses at times when she is also pregnant. What is the significance of this coincidence of pregnancy with disease conditions? It is sometimes considerable. The prognosis of the pregnancy may be profoundly influenced by the intercurrent condition; the course and progress of the intercurrent disease may be affected by pregnancy.

But the second of these statements has in the past been very much exaggerated in the minds of all medical men. They have felt that pregnancy was another disease, co-existing with that complicating it. Therefor in order to give the best prognosis for the other disease, it was necessary to do away with the pregnancy. This without relation to whether the disease were directly related to the pregnancy per se or not. The temptation to thus consider the pregnancy as a complication of the other disease and to remove it has always been very strong. This however, in our opinion, shared by nearly all obstetricians, is a completely erroneous concept.

The senior author has been in practice 50 years. No more significant change in that period has occurred than the shift of opinion in this regard. But we have had to learn it gradually, and unfortunately the hard way for our patients. J. Clifton Edgar, late Professor of Obstetrics at Cornell, firmly believed that the interruption of pregnancy during the actual course of eclampsia was most necessary. He accomplished this by the horribly brutal and shocking procedure of accouchement force," whereby the cervix was forcibly manually dilated, and the fetus delivered as expeditiously as possible by forceps or version. We know now that that sort of management must have unnecessarily killed many poor mothers. A little later, perhaps about the mid-twenties, we had substituted the much less traumatic cesarean section for Edgar's brutal operation. Following one of these operations, the patient was not doing well and the late Harold Bailey, at that time professor of obstetrics at Cornell, saw her in consultation. He gave us hell. He said, "your patient will recover, but you do not deserve that she do." Thus sharply brought to book, we at last learned that if eclamptic patients are going to be saved, they have the best chance of recovery by entire neglect of the fact that they are pregnant, allowing them either to deliver spontaneously at such time as labor naturally supervenes, or to terminate the pregnancy by the least traumatic means possible when the eclampsia has been entirely recovered from.

Eclampsia is of course one of the greatest killers associated with and dependent upon the pregnancy itself. But again we had the benefit of a very salutary lesson. In the great pandemic of influenza of 1917-18, following the age-old fetich of ridding the patient very sick from intercurrent disease of her totally unoffending pregnancy, this course was followed for a while. The results were not good. Upon reversing our philosophy and permitting these patients to battle their infection without the strain of unnatural termination of the pregnancy, the results were far better.

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But men still persisted in thinking of pregnancy as a disease and one which should be eradicated if it existed in the presence of another disease. Therefor up to the present time so-called therapeutic abortion is very widely practiced because men fear to permit pregnancy to continue concurrently with another disease. These diseases may be either surgical or medical.

Emergency surgical conditions have to be handled by operation in the pregnant just as they do in the non-pregnant. When in a large hospital the volume of pregnancy cases mounts to large figures, the variety of the surgical complications encountered and necessary to handle in a manner similar to the same conditions occurring in the non-pregnant, is astonishingly varied. The following partial list of such conditions encountered on the service of the Margaret Hague Maternity Hospital exhibits this.

Operations Performed Up To the End of 1936

4 Head, Neck and Respiratory Tract
  Mastoidectomy
  Drainage of Maxillary Antrum
  Resection of Cyst of Lip
  Biopsy for Tumor of Larynx
4 Thyroidectomies
  Thoracotomy for Emphysema
  Thoracotomy for Subphrenic Abscesses

Of these, the mastoid patient went into premature labor the day following operation and delivered successfully without disturbance of her post-operative course.

The others suffered no disturbance of the concomitant pregnancy.

GastroIntestinal Tract
24 Appendicectomies for appendicitis
  Cholecystectomy
  Drainage for Acute Hemorrhage Pancreatitis
4 Hemorrhoidectomies
External Genitalia
  Condylomata of Vulva
  Fibroma of Labium
  Cysts & Abscesses of Bartholin's Glands
Internal Genitalia
  Congenital Obstruction of the Vagina
  Polypi of Cervix
  Fulguration of Inflammatory Lesions
  Infected Tubes
  Ovarian Cysts
  Otherwise Diseased Ovaries
  Myomata Uteri
  Degenerated Large Fibroids
  Hydatid Mole with Malignant Invasion
  Carcinoma Uteri
  Traumatic Perforations of Uterus
Upper Urinary Tract
  Pyelotomy
  Nephrotomy
  Incision and Drainage of Perinephritic Abscess

As in any other numerically similar group of individuals, acute appendicitis is one of the frequent surgical diseases in the pregnant woman. It must be treated surgically with perhaps the greater promptitude because of the pregnant state. Yet some years ago we found by reference to a large number of authorities that there was rather an even split in opinion as to whether acute appendicitis should be surgically attacked without reference to the pregnancy or that such operation be combined with simultaneous operation to terminate the pregnancy. We found that at that time we had surgically treated 24 cases of acute appendicitis, a larger series than up to that time had been reported by any other single author. These were reported in detail before The Obstetrical Society of Philadelphia, January 7, 1937. In no one of the 24 cases had the pregnancy been deliberately interfered with although two of them actually occurred intrapartum, the labors progressing to successful termination in spite of the concurrent surgical interference. One only of the mothers died, a grossly neglected case suffering on admission from far advanced general peritonitis at the eighth month. Even her baby survived, she having delivered spontaneously ten days after operation. Several of these cases had complicating disease of the ovary also surgically dealt with at the time of the appendectomy. Other acute abdominal surgical disease included two twisted pedicle cysts of the ovary, one twisted pedicle fibroid with hemorrhagic degeneration, one acute hemorrhagic pancreatitis, and an adenocarcinoma of the ovary.

Today there is no such division of opinion as we found 20 years ago. The latest editions of all the principal textbooks emphatically condemn interference with the pregnancy at the time of operation for intraabdominal pathology. Robert Gordon Douglas of Cornell cites 48 cases of appendicitis in pregnancy (in a four year period), describes the operation therefor and permits no disturbance of the pregnancy no matter what its duration is. Doctor John C. Burwell of Greensboro, N. C. recently reported before the South Atlantic Obstetrical and Gynecological Society a yet unpublished series of 11 cases so treated, without the loss of a single mother or baby. One of us has recently had occasion to review 300 case reports submitted by candidates for the diplomacy of the American Board of Obstetrics and Gynecology. A few cases of appendicitis in pregnancy were included. But neither in their management nor discussion did any candidate entertain the thought of mixing curative surgery with meddlesome obstetrics. These men derived from many parts of the country and many centers of undergraduate and residency training.

As a result of our original experience, the following dicta were evolved: The proposal to empty the uterus before or at the time of appendix operation in late pregnancy for the purpose of

1. A more competent peritoneal survey and toilet;
2. Facilitating the technic of appendix operation;
3. Avoiding the risk of spreading infection;
4. Avoiding infection of placental site; all believed to be mistaken and vicious.

On basis of large experience believed that no effort should be made to terminate pregnancy at the time of appendix operation and especially not to open the uterus at that time. Acute appendicitis is a surgical condition invariably calling for prompt operative intervention. This indication is not modified, but is even more promptly imperative when appendicitis complicates pregnancy even at or near its termination.

Its surgical treatment should not be combined with any manipulation to terminate pregnancy. This statement may be modified by—

A. The legitimacy of simple procedure to expedite termination of the second stage of labor.

B. Recognition of the very rare possibility of concurrent serious factors of obstetric dystocia.

When this occurs, recourse may be necessary to delivery by the abdominal route. But such interference should be reserved until after the onset of spontaneous labor, and extraperitoneal approach selected.

Two of these cases presented special interest. One mother died:

IDENTITY	DIAGNOSIS &	OUTCOME OF	MORTALITY	
ADM. DATE	OPERATION	PREGNANCY	M	B
M. D. 23958 8/27/35	Normal Pregnancy Ac. Perforated Appendicitis, c General Peritonitis, 8th month, Appendicectomy—Drainage—Secondary Drainage—Laparotomy—Enterostomy	Spontaneous Premature Delivery 10 days P.O.	D	L

Patient admitted two days after onset, with repeated purgation during that interval, and with extensive generalized peritonitis. Immediate prognosis was most grave, and course so unsatisfactory that secondary drainage operation was performed before labor had occurred, and could be assessed as a factor of disturbance. Fatal outcome believed to depend on delayed diagnosis and early mismanagement, and to be expected even had patient not been pregnant. Further believed that augmentation of original operative shock by any method of emptying uterus at that time would have been fatal.

IDENTITY	DIAGNOSIS &	OUTCOME OF	MORTALITY	
ADM. DATE	OPERATION	PREGNANCY	M	B
J. H. 19680 12/20/34	Normal Pregnancy Ruptured Gangrenous Appendicitis With Twisted Pedicle Cyst of Ovary & Peritonitis, Intrapartum. Appendicectomy. Drainage.	Normal Parturition Low Forceps to Expedite 1 Day P. O.	L	L

This case reported in detail by Norton & Connell—actual labor had begun before operation—latter did not essentially modify course of labor. Labor did not modify smooth p.o. convalescence.

Several other cases in which very short intervals intervened between operation and delivery are shown to negate fear that such short intervals either cause disruption of the fresh operative incision or cause localized peritoneal inflammation to spread disastrously.

IDENTITY	DIAGNOSIS &	OUTCOME OF	MORTALITY	
ADM. DATE	OPERATION	PREGNANCY	M	B
A. E. 48916 6/20/42	Mild Eclampsia—38 weeks—Not in Labor; Acute Purulent Appendicitis with Peritonitis.	Precipitate Delivery 1½ hours after Operation	L	L

Delivery Immediately After Operation In No Way Complicated Postoperative Course.

H. M. 28154 10/27/36	Acute Purulent Appendicitis Intrapartum Appendicectomy	Delivered Spontaneously Only 24 hours Later	L	L

Smooth Post-Operative and Post-Partum Course. Discharged From Hospital on 15th Postpartum Day.

Active labor commenced at least two hours before operation, and perhaps earlier, as it was hard to distinguish labor contraction in the presence of the severe inflammatory pain, so that operation did not initiate labor, nor modify its normal evolution. Neither did labor modify a smooth postoperative course, marked by only two days febrile morbidity.

IDENTITY ADM. DATE	DIAGNOSIS & OPERATION	OUTCOME OF PREGNANCY	MORTALITY M	B
H. K. 26461 8/20/36	Normal Pregnancy Ac. Purulent Appendicitis Appendicectomy Drainage	Normal Parturition 24 Hours P. O.	L	L

Local purulent peritonitis present. Appendix was exposed with much difficulty. Only 2 days p.o. febrile morbidity. Labor did not modify the good postoperative course.

It has not seemed necessary to canvass all the cases we have had in the 22 years since our first report. But a "spot-check" of a portion of this period will suffice to indicate the frequency of this complication, and the results of surgical treatment without interfering with the pregnancy. About midway of this time period was 1950.

In this calendar year there were 8,426 deliveries at approximate term. Among them were nine cases of acute appendicitis managed in our traditional fashion. This is a very small incidence, about 11/100 of one per cent. But each case was a potential threat to an expectant mother's life. The period of utero-gestation varied from the 16th week (two cases) to the 39th week (three cases). No mothers and no babies were lost.

In 1950 in addition to the above cases there were five cases of appendicitis operated elsewhere between the 8th and 16th weeks of gestation and delivered of living children in our hospital.

Two cases were also operated in our hospital during pregnancy, but were discharged undelivered and subsequently lost sight of.

These seven cases would of course increase the incidence of the condition as indicated by the cases already noted for that period.

Some writers have stressed the difficulty of diagnosis of appendicitis in pregnancy, especially in the last trimester. This is due to the dislocation upward of the caput coli by the enlarged uterus, and to the similarity of some of the symptoms not due to appendicitis, to those sometimes occurring in pregnancy. It seems to me that this difficulty has been overstressed. It is well-known that all cases of appendicitis vary widely in their symptomatology, and the same is true of it when occurring in pregnancy. But the single almost invariable manifestation in all cases, the one thing upon which diagnosis depends with almost complete certainty, is localized tenderness and rebound tenderness. Remembrance of this fact will protect from error. As in the case of the non-pregnant, the occasional removal of an innocent appendix is far preferable to the failure to remove a sick one.

Another not too infrequent and of course always very dangerous surgical complication of pregnancy, is intestinal obstruction. Most frequently it occurs in cases having had previous abdominal surgery. In a case with any syndrome suggesting obstruction, evidence of a previous operation may be most significant. The operative treatment of this condition is sometimes made exceedingly difficult by the enlarged pregnant uterus, because it may interfere seriously with the search for the location of the lesion. The surgical treatment will vary, depending on the nature and location of the lesion and the amount of damage to the gut. In the years 1950, 1951 and 1952 there were six cases of intestinal obstruction as follows:

B. R. #98788 1950 Age 33 Grav. IV Para III
Pregnancy 33 weeks—Admitted with diarrhea and abdominal pain. Operated for intestinal obstruction. Obstruction at terminal ileum caused by adhesions from previous surgery—1943 appendectomy and right oophorectomy.
Delivered at 35 weeks—puerperal infection.

E. L. #100182 1950 Age 21 Grav. I Para O
Pregnancy 28 weeks—Intestinal obstruction—small intestine.
Operation—Reduction of internal hernia in ileocecal fossa through the mesentery.
Postoperative course uneventful. Patient delivered spontaneously of living child at 40 weeks.
No postpartum complications.

L. T. #100506 1950 Age 32 Grav. I Para O
Pregnancy 34 weeks—admitted with abdominal pain and vomiting.
Previous surgery—myomectomy at 12 weeks gestation. Patient operated for obstruction—obstruction due to adhesions between small bowel and myomectomy scar.
Mid forceps extraction 67 hours postoperative—living child.
Postoperative and postpartum course uneventful.

H. G. #106816 1950 Age 27 Grav. I Para O
Pregnancy 32 weeks—small intestine obstruction.
Operation—Resection of ileum. Lymphosarcoma of ileum.
Postoperative course uneventful. Known to have lived for at least 18 months.
Outcome not known.
Pregnancy 41 weeks—mid forceps extraction.
Postpartum course uneventful.

E. D. #118964 1951 Age 28 Grav. III Para II
Pregnancy 35 weeks—Small intestinal obstruction—two degrees to adenocarcinoma of the jejunum.
Delivery with low forceps following successful induction.
Operated 27 days postpartum and lesion of jejunum

found with obstruction of small bowel proximal to lesion.

NOTE: Patient had complained of nausea and vomiting from 20 weeks prior to onset of pregnancy —admitted several times during pregnancy.

H. T. #129139 1952 Age 32 Grav. II Para I Pregnancy 34 weeks—Admitted with complaint lower abdominal pain of 16 hour duration.
Previous surgery—ovarian cystectomy 1943.
Patient delivered by low transverse cesarean section.
Obstruction of terminal ileum due to adhesions.
Bowel resected because of gangrene—side to side anastomosis.
Postoperative course uneventful.
Surgery performed for obstetrical indication (abruptio placenta).

Some utterly bizarre cases also occur, such as (1) rupture of a vein on the surface of an ovarian cyst; (2) mesenteric thrombosis; (3) rupture of an aneurysm of the splenic artery; (4) a massive volvulus of the small gut into the large.

One of the most interesting was:

IDENTITY	DIAGNOSIS &	OUTCOME OF	MORTALITY	
ADM. DATE	OPERATION	PREGNANCY	M	B
A. G. 24139 9/16/35	Normal Pregnancy Ac. Hemorrhagic Pancreatitis—General Peritonitis, 7th Mo. Exploratory Laparotomy Drainage	Spontaneous Premature Delivery Elective Low Forceps to Expedite 15 hrs. P. O.	D	D

Patient admitted two days after onset of acute symptoms, with background of acute alcoholism and severe abdominal trauma. Symptom picture was confusing.

The acute surgical condition with its severe toxicity doubtless caused foetal death and precipitated delivery. The upper abdominal exploration can hardly be held to have done so. The parturition almost certainly did not malignly affect the already hopeless condition of the patient.

In the past thyroidectomy has occasionally been necessary, and nephrectomy for advanced inflammatory disease of the kidney, but improvement in medical resources of treatment have almost wholly eliminated such necessity. Brain tumor rarely occurs, but may call for surgery at any time during the pregnancy.

Malignant disease of the generative organs occurring, or discovered during pregnancy, must be dealt with by irradiation or extirpative surgery as variously indicated. Here, as in other situations it is not advisable to disturb the pregnancy although the remedial action selected may destroy the fetus. In some cases it requires nice judgment to balance the prognosis of the disease in the mother against the chances for fetal survival.

IDENTITY	DIAGNOSIS &	OUTCOME OF	MORTALITY	
ADM. DATE	OPERATION	PREGNANCY	M	B
H. B. 20675 12/6/34	Normal Pregnancy Adenocarcinoma of Ovary 6th mo. Salpingo-oophorectomy	Spontaneous Premature Delivery 32 wk. 33rd P. O. Day	L	L

Subsequent to operation there was a series of intensive deep X-ray exposures. This may have induced premature labor. The operative interference per se could scarcely have done so, as more than one month had elapsed following it.

The incidence of fibroid tumors of the uterus is rather high. Most of them, even if large, or multiple, do not require surgery during pregnancy. Even hemorrhagic infiltration of intramural tumors usually are best handled expectantly. But when pedunculated fibroids become strangulated by twisting of the pedicles, their removal at once becomes urgently necessary. Such surgery should be limited to myomectomy, even if invasion deeply into the myometrium is necessary to accomplish it.

IDENTITY	DIAGNOSIS &	OUTCOME OF	MORTALITY	
ADM. DATE	OPERATION	PREGNANCY	M	B
E. S. 21686 4/5/36	Normal Pregnancy Pedunculated Fibroid Ac. Hemorrhagic Degeneration, 4th mo. Resection of Tumor Involving Myometrium of Fundus	Parturition Normal Term	L	L

As is not infrequently observed, even incision into the substance of the pregnant uterus itself may not disturb the pregnancy, nor result in dangerous weakening of the wall thereof.

Tumors of the ovary, when of any size, or rapidly growing, should unhesitatingly be removed. The difficulty of accurate diagnosis of their nature, the frequency of malignancy and of twisting of their pedicles, emphasizes that need.

IDENTITY	DIAGNOSIS &	OUTCOME OF	MORTALITY	
ADM. DATE	OPERATION	PREGNANCY	M	B
G. R. 12472 6/23/34	Normal Pregnancy Twisted Pedicle, Lutein Cyst of Ovary, 3rd mo. Oophorectomy	Incomplete Abortion 11 Days P. O. Digital extraction Secundines	L	D

Foetal death probably due to nature of pathology.

M. F. 16823 1/29/34	Normal Pregnancy Twisted Pedicle Ovarian Cyst 3rd Mo. Oophorectomy	Normal Parturition Term	L	L
A. O'C. 25872 2/20/36	Normal Pregnancy Ac. Catarrhal Appendicitis Multi-locular Intraligamentous Cystadenoma of Ovary, 3rd Mo. Appendicectomy Extirpation of Cyst	Normal Parturition Term	L	L

Finally, contrary to the whole line of reasoning in relation to the extraneous surgical complications of pregnancy discussed, there is a rather large group of cases in which obstetric surgery to terminate the pregnancy is indicated to protect both the mother and more particularly the fetus from the effects of conditions complicating it. Most important of these are (1) diabetes; (2) rare cases of renal disease; (3) severe preeclampsia not successfully controlled by other means; some cases of Rh blood incompatability between husband and wife.

So in summary I would impress on you an almost completely axiomatic principle: The operative indications for the treatment of the acute surgical complications of pregnancy should be promptly carried out. But in connection therewith, the pregnancy should not be disturbed.

Therapy of Cancer

Factors favoring the development of surgical treatment of cancer have advanced so far over the past two or three decades that "we cannot expect equal improvements" in these factors during the next three decades, hence surgeons should "make serious efforts to find other mechanisms and modalities to use in conjunction" with surgery if the "static figure of five-year survivals following operation" is to be increased, says Dr. Warren H. Cole, University of Illinois College of Medicine.

Among the most important factors that have improved surgery are increase in the amount of adjacent tissue removed with the tumor, better anesthesia, and "vastly improved understanding of decrements (electrolytic and caloric fluid) . . . ."

Following animal experiments, prophylactic or adjuvant anticancer agents were used by Dr. Cole and associates in 74 patients, half of whom were controls. Laboratory findings had indicated that "nitrogen mustard and triethylenethiophosphoramide (thioTEPA) would sharply decrease the take of Walker 256 cells when the drugs were given at the same time as the inoculation of the cancer cells or shortly thereafter."

A favorable trend was tentatively established by the results in the patients. However, as suggested by other series, routine use is not advised.

If prophylactic and adjuvant therapy, as indicated in work so far done, "stands the test of time, we would not expect one chemical to be effective for all tumors." Furthermore, better anticancer agents are still needed. "However, since the testing of 30,000 to 40,000 chemicals per year for the past few years has not revealed a truly effective agent against solid tumors, we must assume that the magic bullet in anticancer compounds will not be discovered in the immediate future. . . . In the meantime we must recognize the fact that surgery and radiation are the only curative procedures we now have." (*Am. Surgeon 25:986, December, 1959.*)

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Editorials

The Value of Disease Reporting

Trichinosis is a reportable disease in Connecticut, i.e., a disease which must by sanitary code regulation be reported through the local director of health to the state department of health when diagnosed. The value of reporting disease has been proven again in the recent investigation of an outbreak of trichinosis.* Briefly, 11 cases of trichinosis occurred in two "family" outbreaks during the last months of 1959. Investigation revealed that all persons involved had eaten, without cooking, a commercially prepared Italian delicacy, a spiced bacon product known as pancetta. This was traced to a common source. The manufacturing concern, realizing that this product is often eaten raw by persons of foreign extraction, voluntarily ceased its production of the item when informed of the outbreak.

The 11 patients in this episode, living in three towns of Connecticut, were attended by four different physicians. It was only because the cases were reported to a central agency, the state department of health, and information about the cases was pooled at the central agency, that the common source of infection was exposed. Through cooperation then with the state department of consumer protection the potentially dangerous product was taken off the market. The value of reporting the disease in this instance is self-evident.

The diseases which must be reported to the state department of health are listed in Regulation 3 of the Sanitary Code of the State of Connecticut. It must often seem to the busy practicing physician that it is simply a waste of his valuable time when he is required to report these diseases. Such reports are frequently, however, of direct value to the general health and welfare. The reporting of brucellosis cases has resulted in the discontinuance of the sale of raw milk from infected herds. The reporting of typhoid cases has resulted in the identification of typhoid carriers and their removal from positions of food handling for the public. The reporting of food poisoning outbreaks has resulted in improvements of sanitation in restaurants. The reporting of psittacosis cases has resulted in regulations prohibiting the importation of parakeets from other states except when the source is known and approved.

Reporting of disease is often of value to people outside of the immediate locality, also. In 1957 it was because of the reporting of disease in other states and other countries that Connecticut was alerted to and prepared for the oncoming wave of Asian influenza.

Numerous other instances of the direct value of the reporting of disease could be cited. Health departments are, however, unable to act more efficiently in the control of disease if they have not been informed of the presence of disease. Physicians are therefore urged for the greater good of the public to report disease as required by sanitary code regulation.

M. E. R.

Do People Die of Senility

In looking over the obituary notices of physicians published every week in the *Journal of the American Medical Association* one notes at times a few which state that the deceased succumbed to senility. These records are, of course, merely compiled by the Association and are doubtless furnished by correspondents or culled from the death notices of lay or professional publications. Any experienced pathologist will admit that there are a few individuals in whom, even after a presumably competent autopsy, the cause of death is not clear. Sometimes this is due to the family of the deceased refusing a complete examination for it is not uncommon for the removal of the skull cap and hence examination of the brain to be debarred. Sometimes it may be due to unsuspected poisoning, for many poisons leave no obvious traces. Sometimes it may result from some oversight of the pathologist, for pathologists are human beings and like all of us occasionally make mistakes. Then again the diagnosis of senility may be deliberately used to hide a cause of death not socially acceptable. One wonders whether the vital organs of some old folks may really give out suddenly like Doctor Holmes' well-known "one hoss shay." As a one-time pathologist the writer feels dubious. One may question whether many Health Departments accept senility as a competent cause of death.

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* A Tale of Trichinosis. Conn. Health Bulletin. Vol. 74, pp. 42-43, February, 1960.

G. B.

On Rushing Into Print and Editorial Responsibility

> "Providence . . . permitted the invention of printing as a scourge for the sinus of the learned."
>
> Pope.

One of the most obvious phenomena of the first half of the twentieth century has been the terrific increase in new scientific discoveries, not all medical but many bearing on medical practice. It has become increasingly difficult to keep up with these advances. Despite various methods designed to aid this process, it is now almost impossible for one to do so. It is fair to ask whether this spate of new information is entirely necessary and if not why not. L. J. F. Brimble has recently stated in *Nature,* an English magazine corresponding to the American *Science,* that there is a tendency nowadays among scientists to rush into print prematurely.[*] This is shown by requests to withdraw articles for revision before publication and by the numerous and expensive corrections in the proofs submitted by authors. How much of this premature publicity is due to the desire for priority is questionable, but it is probably an important factor for it is natural to crave credit for new discoveries. Mr. Brimble also comments on the fact that many scientific papers are much too detailed and quotes Lord Rutherford as saying, "if you cannot say all that is necessary in 500 words or less, then something is wrong." Doubtless details as to the method of obtaining facts on which scientific conclusions are based are essential but, as Mr. Brimble points out, when contributors to *Nature* have been requested to reduce the length of their articles to two-thirds of one-half of their original length, only two or three in a period of 25 years have claimed that they were unable to do this. There is little doubt then that many writers of scientific articles are unnecessarily verbose.

The succeeding issue of *Science* contains a discussion on editorial responsibility signed with the initials of the acting editor.[†] He points out that every editorial which appears is criticized by some one and that such a reaction is a welcome and healthy sign. Some criticisms are made to correct errors and, as has been said, "the man who never makes mistakes never makes anything." The criticism that the editor of a scientific journal should not presume to represent all scientists is accepted and given as the reason why editorials should be signed. If an editorial provokes controversy it is useful, for honest differences of opinion may clarify disputed interpretations. If an editor writes drivel, he alone is responsible. It would seem then that rushing into print and editorial responsibility are closely related and that one function of a good editor is to detect errors or undue verbosity and to correct them.

G. B.

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[*] J. L. F. Brimble, quoted in Science, 122: 949, 1955.
[†] Science, 122: 1001, 1955, signed D.W.

THIS IS YOUR OPPORTUNITY

Physicians are often charged with inadequate participation in programs of post-graduate education. If true, it seems paradoxical, that this situation should exist at a time when a plethora of opportunities to learn are available to the medical profession. It is generally accepted by the conscientious doctor that his education must be a continuing process throughout his activ medical career.

As recently emphasized on the President's Page of the Journal, it is a function of the Connecticut State Medical Society to advance and disseminate medical knowledge. With this in mind, an attractive program which includes discussions on varied subjects of medical and surgical importance has been arranged for the Annual Meeting of the Society on April 27th and 28th, at Hamden High School. The guest speakers are authorities in their fields of special interest who will bring to your attention the newer developments which will enhance patient care.

The success of this program of postgraduate information depends on your attendance. Se aside these dates on your calendar *NOW!!*

Orvan W. Hess, *M.D.,*
Program Chairman

THE PRESIDENT'S PAGE

Looking back over a year filled with diverse activities, our Society has, of necessity, been occupied with a veritable barrage of problems and projects imposed upon it from both within and without. In ordinary times many of these matters would not have appeared upon the scene, but to meet our larger challenges, it was inevitable that such undertakings as an opinion survey, a relative value study and other pertinent subjects be initiated and given due consideration.

Our legislative challenge, brought about by opposition to the type of legislation contained in the Forand Bill has required a continuous effort since June 1959. Indeed, we have just recently been requested again by the AMA to intensify our efforts and to implement our contact program. Our State Society has made an admirable and most comprehensive endeavor to influence legislative policy in the face of considerable adverse congressional representation in this state. At the same time we have made every attempt to acquaint legislators and the public with the serious implications and the inadequacy of governmental controlled medical care.

The perennial Connecticut Medical Service problem, has recently been brought up again, largely through the use of semantics with respect to the interpretation of a "moral obligation" of physician members of the CMS Board of Directors "to observe and further the intent" of certain resolutions adopted by the House of Delegates on January 27, 1960. The actions recommended called for increased service benefits income limits for members of CMS by approximately 20 per cent; restoration by the Council of the "at least 50 per cent service benefits" principle; all doctors of medicine in Connecticut to continue to support the Service Benefits principle; and encouraged by continuing study with Connecticut Medical Service to seek to make available to the public broader coverage and more comprehensive protection against the costs of services of doctors of medicine.

Every one of these recommendations was in general agreement with what most people would consider a step in the right direction to benefit the public and to perpetuate amicable relations between Connecticut Medical Service, Inc., and the Society. Throughout the year, many of us had endeavored in all sincerity to develop improvements in our Blue Shield Plan which would be in consonance with proposals acceptable to the majority of the members of the House of Delegates.

As minimal as anyone might construe these improvements to be—to me they represent progress over anything we have had in the area of a prepaid medical care plan. Perhaps more might have been accomplished, but to some the meaning of the term evolution appears to have been unrevealed. In reading the medical journals of the several states one finds in reference to certain Blue Shield plans that there are those within these organizations who are convinced that they understand the psychology of the majority of physicians in their area, are invariably accurate in appraising reactions, and are competent to dispense wisdom without consultation in whatever measure they believe necessary. This attitude leads to continued and widespread unrest and dissatisfaction and can only be corrected when some suitable mechanism is found which will bring the ideas of all physicians to a focus in the sphere of "Doctor's Plans." It is believed that the opinion survey may serve to do this.

Although there are presently somewhat ominous reports to the contrary, we continue to hope that a plan, based on considered progress and with recognition of the House of Delegate's recommendations, will be developed by CMS. It is time for further serious reflection on all these pressing problems.

Ellwood C. Weise, Sr., m.d.
President

Special Article

A Triad of Common Causes of Constipation

Simon B. Kleiner, m.d.
New Haven

During many years of practice as a proctologist one of the problems about which I have been consulted frequently is chronic constipation; one of the most common types of constipation seen is the one in which the stool is very hard and dry. This is determined by digital examination as well as through the anuscope and sigmoidoscope. The condition is caused, in my opinion, by three factors—neglect of bowel habit, that is, allowing the stool to remain in the rectum too long and to become dessicated, low water intake, and an insufficiency of laxative foods. In these cases I am accustomed to tell my patients that they have what I call "stenographers' constipation." I am not sure whether this name is original or whether I saw it in the literature at some previous time, but I consider it an appropriate name for this type of constipation. It occurs among many people who must get to work at a regular hour in the morning, and among those who have certain common habits of eating and drinking.

Neglect of Morning Bowel Habit

The important factor in this type of syndrome is failure to continue bowel habits which undoubtedly were established in childhood; or failure ever to have established such habits. This deficiency may be present in the child who, due to the desire to get to school punctually does not take time to carry out the normal physiological function of defecation each day. This may also be true in the case of the person who rushes off to work without taking time to carry out the important duty of moving his bowels.

Let us consider then the possible morning schedule of such an individual. It is probable that she arises as late as possible. This is a normal routine which most of us follow. Were she to get up ten or fifteen minutes earlier she would have time, following a hot drink with her breakfast to allow peristalsis to function. If she is a smoker the leisurely smoking of a cigarette would be an added stimulus to defecation. This is out of the question! Why waste 15 minutes of valuable sleep when one can go to the toilet at the office on company time? Thus the habit of childhood, instilled in her by a conscientious mother is soon lost.

We realize of course, that the young lady still has the urge to defecate, and expects to carry out this function as soon as she reaches the office. On her arrival while she is applying fresh make up, the telephone rings and has to be answered. The chance for an evacuation has been lost again. Then the stenographer has to go to the post office to get the mail, must open and sort it and take it to her employer, before she has an opportunity to gratify the urge which still is present. The next order of business is a visit to the bank, then comes the coffee break. Drinking hot coffee again may cause an urge to defecate, but it is impossible at this time for her to go to the toilet as it is necessary to take dictation concerning the mail which has been received.

After this comes the lunch hour. By this time the stimulus to move the bowels has all but disappeared. If she still has the desire it must be ignored, because a call of nature should not be answered on one's own time. Then there are personal errands to be done at noon. No doubt there will be a few minutes right after lunch hour. However on returning from lunch, she finds many letters to be typed so that the boss can sign them before leaving for a conference at three-thirty. Moreover, the urge to evacuate has probably disappeared by this time. If still present, it must be ignored because last minute preparations are being made to close the office, apply make up and put everything in perfect order so as to be able to leave promptly at closing time.

But now the small amount of moisture left in the stool has been absorbed and the stool has become dry and hard. The easiest thing for the individual to do is to take a "liver pill" or chew laxative gum or candy which will give her the bowel movement she should have had in a normal manner on arising or right after breakfast that morning.

Insufficient Water Intake

There is still another factor which adds to constipation, especially in working people and school children. That is the bubbler. It is extremely difficult to do more than wet one's lips at a bubbler. It is practically impossible to get a full drink of water this way. The paper drinking cup is almost as bad.

The body excretes a considerable amount of water each day through the urine. Much is lost in vaporization from the lungs and evaporation from the skin. If this water is not supplied by drinking then it will be absorbed from the stool causing the bowel movement to be dry and hard.

In the case of a patient with constipation due to dry hard stools, I customarily advise drinking eight glasses of water a day in addition to other beverages. Assuming that the patient drinks two, or even three glasses of water at home, this leaves five glasses to be consumed during working hours. The usual paper drinking cup holds 120 centimeters of fluid, or one-half the amount held by an ordinary tumbler. In order to drink the prescribed amount of water during working hours, the patient would have to consume ten paper cups full of fluid; the chances are she does not fill the cup each time. In order to get the required quota through a bubbler, she literally would drown!

Naturally this peculiarity of bowel habit applies to men as well as to women. Many men cannot take time out to defecate either because of failure to allow sufficient time in the morning, or because the toilet is monopolized by children getting ready for school. There is a question as to whether the old fashioned multiple-unit privy, discounting the lack of privacy, did not have its advantages over the one bathroom house or apartment in allowing more than one person at a time to answer the call of nature instead of necessitating waiting to use the toilet facilities.

Another person whose difficulties are almost as great as a stenographer's or a shop girl's is the mother of the average family. She arises in the morning just in time to prepare breakfast for her working husband, then helps her children get ready for school and gives them their breakfast. All this time the bathroom is monopolized by the father, then by the children as they all have to get out early in the morning.

When they have gone the mother has to wash the dishes, make the beds and straighten up the house. If by this time she still has the inclination to defecate, she is occupied with telephone calls. Now lunch must be prepared and the same cycle starts all over again.

Faulty Eating Habits

The third factor tending to cause constipation in the group of patients under consideration is its eating habits. While many of these persons have orange juice, prune juice, or some fruit for breakfast, lunch generally consists of a simple sandwich and a beverage. No roughage is consumed at noon either at the lunch counter or in the food carried in the lunch box. If lettuce or cole slaw is included with the sandwich or if a salad, tomato or other raw vegetable is eaten with the lunch I believe real improvement will result.

This however is not new. Physicians have been advising use of laxative foods for many years.

The same routine may be the cause of simple constipation in school children as well as in the working man and the working women. The habit of regular bowel movement is lost by inability to perform the normal function at a regular time, the impossibility of performing this function subsequently, due either to fear of leaving the class room, poor toilet facilities or laziness. Add to this an insufficient water intake and too little roughage and the factors are present for a good case of chronic constipation.

Conclusions

The average individual—working girl, man or school child—should plan to allow enough time in the morning to have a relaxed bowel movement. In addition he should consume a sufficient amount of water and roughage to assure the passage of a soft stool. Pursuance of this regimen no doubt would greatly reduce the number of cases of chronic constipation and the resulting use of laxatives.

ANNUAL COUNTY ASSOCIATION MEETINGS

New Haven, Thursday, March 24

New Haven Lawn Club, New Haven

Business meeting: 2:00 p.m.
(Combined meeting with Woman's Auxiliary)

Followed by a cocktail hour and the eighth joint dinner meeting with the Woman's Auxiliary.

Piano Recital—Mrs. Seymour Zonn

Litchfield, Tuesday, April 5

Torrrington Country Club, Goshen

Business meeting: 4:00 p.m.

Dinner: 7:00 p.m.

Speaker: Dr. Allan J. Ryan of Meriden
Subject: "Athletic Injuries"

Hartford, Wednesday, April 6

Wampanoag Country Club, West Hartford

Business meeting: 5:00 p.m.

Dinner: 7:00 p.m.

Speaker: Dr. Albert E. Burke
Subject: "Youth, Aging, Ideas and National Survival."

New London, Thursday, April 7

Mohican Hotel, New London

Business meeting: 5:00 p.m.

Dinner: 7:00 p.m.

Fairfield, Tuesday, April 12

Stratfield Hotel, Bridgeport

Business meeting: 4:00 p.m.

Social hour: 6:00 p.m.
Dinner: 7:15 p.m.

Speaker and subject to be announced.

Middlesex, Thursday, April 14

Commodore MacDonough Inn, Middletown

Business meeting: 4:30 p.m.

Dinner: 7:30 p.m.

Speaker: Mr. Robert Cushman
Subject: "Cambodia"

Tolland, Tuesday, April 19

Old Homestead Inn, Somers

Dinner: 6:30 p.m.

Speaker and subject to be announced.

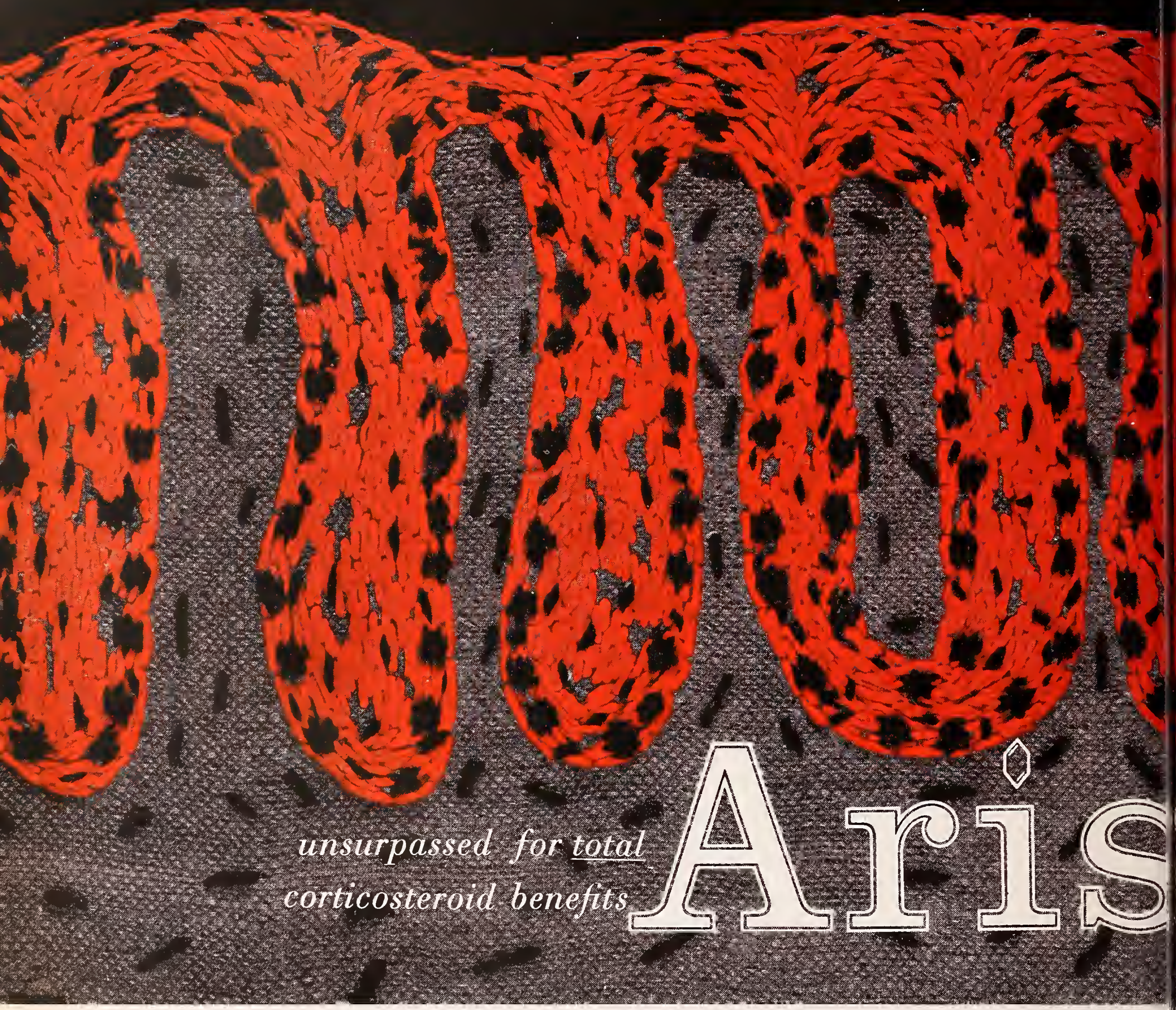
Windham, Thursday, April 21

Ben Grosvenor Inn, Pomfret Center

Dinner: 7:00 p.m.

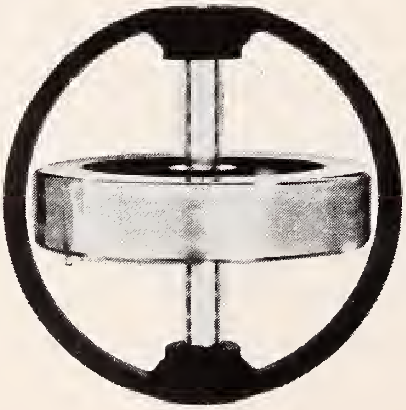
Speaker and subject to be announced.

in allergic and inflammatory skin disorders (including psoriasis)



Substantiated by published reports of leading clinicians

- **effective control** of allergic and inflammatory symptoms[1-3,7,8,12-15,17,18]



- **minimal disturbance** of the patient's chemical and psychic balance[1,4-18]

At the recommended antiallergic and anti-inflammatory dosage levels, ARISTOCORT means:

- **freedom from salt and water retention**
- **virtual freedom from potassium depletion**
- **negligible calcium depletion**
- **euphoria and depression rare**
- **no voracious appetite — no excessive weight gain**
- **low incidence of peptic ulcer**
- **low incidence of osteoporosis with compression fracture**

Precautions: With ARISTOCORT all traditional precautions to corticosteroid therapy should be observed. Dosage should always be carefully adjusted to the smallest amount which will suppress symptoms.

After patients have been on steroids for prolonged periods, discontinuance must be carried out gradually over a period of as much as several weeks.

Supplied: 1 mg. scored tablets (yellow); 2 mg. scored tablets (pink); 4 mg. scored tablets (white); 16 mg. scored tablets (white).

Diacetate Parenteral (for intra-articular and intrasynovial injection). Vials of 5 cc. (25 mg./cc.).

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FROM THE GENERAL MANAGER'S OFFICE

William R. Richards, m.d., *General Manager*
160 St. Ronan Street, New Haven, Conn.
Telephone UN 5-0587

James G. Burch
Director of Public Relations

Josephine P. Lindquist
Assistant to General Manager

CALL

ANNUAL MEETING OF THE HOUSE OF DELEGATES

The 1960 Annual Meeting of the House of Delegates will be held in the auditorium of the Hamden High School, 2040 Dixwell Avenue, Hamden, commencing at 10:00 o'clock in the morning of Tuesday, April 26.

Following luncheon, the House will reconvene for the completion of business.

Ellwood C. Weise, Sr., President
William R. Richards, Secretary

INTRODUCTION OF RESOLUTIONS

Article VII, Section 4, of the By-Laws of the Society provides:

Par. 1. All resolutions to be introduced before the House of Delegates at an annual, semi-annual, or special meeting, except resolutions and recommendations from the Council and resolutions and recommendations that may be contained in committee reports, shall be delivered to the General Manager in time for publication in the official agenda for the meeting at which action is to be taken.

Par. 2. Resolutions and recommendations to be introduced before the House of Delegates at an annual, semi-annual, or special meeting by the Council and recommendations that may be contained in reports of standing or special committees of the Society shall be published in the official agenda for the meeting at which action is to be taken. The official agenda shall be distributed to the members of the House of Delegates at the earliest possible date preceding the meeting.

Par. 3. Resolutions and recommendations which do not meet the requirements of paragraphs 1 and 2 of Section 4 of this article may be accepted for action by a session of the House of Delegates by a majority vote of the delegates present. Such resolutions and recommendations shall be referred at once by the presiding officer to reference committees appointed by him from the membership of the House. These reference committees shall consider the resolutions and recommendations referred to them and shall report, with recommendations, to the House before adjournment of the session.

Action of the Committee on Third Party Payments

The attention of members of the Society is directed to the following recommendation of the Committe on Third Party Payments, approved by the Council on February 11, 1960.

"In answering a request for medical information from an insurance company, it is proper for the physician to charge a reasonable fee commensurate with the time and effort involved."

A copy of this recommendation has been sent to Health Insurance Councils.

Chiropody

As will be noted in the minutes of the Council meeting of March 10, 1960, an initial meeting between representatives of the Society with similar representatives of the Connecticut Chiropody Society, Inc. was held on March 3rd.

The matter under consideration is the permissive prescribing of pain relieving and anti-infective drugs by chiropodists in conjunction with certain surgical procedures which they are authorized to perform.

Past interpretation of existing statutes has been that chiropodists may *not* prescribe such medications. This interpretation is subject to reconsideration by the State's Attorney General.

Any physician who has a personal opinion in this regard, either pro or con, may communicate his thoughts to Dr. Franklin M. Foote, Commissioner, State Dept. of Health, 165 Capitol Avenue, Hartford, Connecticut.

COUNCIL MEETING

Thursday, March 10, 1960

A meeting of the Council was called to order by the Chairman, Dr. Feeney at 4:15 P.M. on Thursday, March 10, 1960. Present in addition to the Chairman were Drs. Weise, Gallivan, Goldberg, Richards, O'Connor, Cullen, Scully, Davis, Cornwell, Kennedy, Buckley, Blodinger, Murray, Gilman, Pollock, Grendon, Gardner, Rentsch and Chartier. Absent were Drs. Gens, Schiavetti, Eddy, Phillips and Purnell.

ACCEPTANCE OF MINUTES. It was VOTED to approve the printed minutes of the Council meeting of February 11, 1960.

CMS, INC. A letter from Mr. Whitney W. Jacobs, Medical-Science Writer of the Hartford Times was read as follows:

"I am interested in doing a series on the long CSMS-CMS discussion about the Blue Shield plan.

Since we would like to be able to present a fair picture, I am writing both you and CMS, asking that you open your files on the matter to us. Letters containing the same points are going to both organizations.

We would be glad to check our stories with you both for factual accuracy, prior to publication. This would be done through carbons furnished you for criticism.

However, such interpretation and viewpoint as the stories might contain will have to be our responsibility. I can assure you that our only aim is to present the issues involved in their proper light.

We have the feeling this whole matter has been taking place with the off-stage threat of something like the Forand Bill hovering in the wings. In the light of this, you can probably see our interpretation of the events is likely to pose the questions: 'Will voluntary health insurance survive? And, if so, what form will it take?'

The trials and tribulations of both organizations, and the pressures involved, would seem to us to point the way to some possible answers, or, at least, suggest some thinking on these points."

In acknowledging Mr. Jacobs' letter, the General Manager reported that he had voiced the following opinion:

"From a personal standpoint, I do not believe that disclosure of the internal operation of either the Society or Connecticut Medical Service, Inc. is in the public interest. I can well understand that the over-all aspects of health insurance is most certainly an important topic of the day and that the 'controversy' between CMS, Inc. and the Society has provided some interesting reading in the newspapers, from time to time. I consider the former subject of considerable importance to patients and doctors alike but the latter not to be in the same category. This is not to imply that the fruits of our mutual labors, as reflected in the nature and scope of coverage of CMS contracts, is unimportant but these will become a matter of public knowledge at such time as the details of possible future CMS contracts are made available to the public."

After some discussion, it was VOTED to approve the content of the General Manager's letter to Mr. Jacobs, and to endorse the attitude toward Mr. Jacobs' request which was expressed therein.

At this point, a number of the physician members of the Board of Directors of CMS, Inc. joined the Council for the purpose of discussing matters of mutual interest. CMS Board members present were: Drs. Blodinger, Buckley, Clarke and Gallo.

The action of the CMS Board with respect to House of Delegates Resolution No. 5, rejecting the implication that physician members of the Board be "morally obligated to observe and further the intent" of the January 27th actions of the Society's House of Delegates, was reviewed. This action was discussed particularly in reference to a recent communication from Michael A. Dean, Bridgeport, and a letter from Louis F. Middlebrook, Jr., Hartford, which had been received on February 18, 1960. Dr. Middlebrook's letter was read as follows:

"In keeping with my word to the Board of Directors of CMS, it is my personal duty to submit to the Council my intention with regard to Resolution No. 5 as recently passed by the House of Delegates.

As an appointee by the Council of the Connecticut State Medical Society to the Board of Directors of Connecticut Medical Service, Inc., I therefore state that I will not agree to be bound by Resolution No. 5, and that I will not consider myself to be "morally obligated to observe and further the intent" of the resolutions passed by the Society on January 27, 1960.

This is in keeping with the action of the Board of Directors of CMS taken on February 5, 1960, which action has been transmitted to the Society, and applies to all Physician-members of the Board, whether confirmed by written communications from them, such as this one, or not.

Each physician on the Board has expressed the feeling that he must be allowed absolute freedom of opinion in the performance of his duty as a public trust as well as a representative of the profession, and that the implication of the questioned resolution is too susceptible of interpretation as being at least the equivalent of taking an oath."

There was some feeling expressed that from a strictly legal standpoint, the implications of Resolution No. 5 might be in conflict with "the absolute freedom of opinion (of each director) in the performance of his duty. . .," as expressed by Dr. Middlebrook in his letter. It was also felt that the words "moral obligation" did not imply that the physician directors or members of the CMS Medical Advisory Committee were to be "bound" or otherwise "directed" by the Society in the performance of their CMS duties. The thought was expressed, however, that if physician members of the Board promoted or furthered the intent of contract proposals which they knew to be *contrary* to the recommendations of the House of Delegates, it is possible to anticipate that such contracts might not prove to be as acceptable to members of the Society as ones based essentially on the January 27th recommendations of the House.

No formal action was taken on Dr. Middlebrook's letter. However, it was VOTED that the Chairman should seek a meeting of the CMS-CSMS Joint Liaison Committee at an early date.

A discussion of several matters being considered, or to be considered, by the CMS Board followed. These matters were: a) a legal opinion submitted to the Board by the law firm of Gumbart, Corbin, Tyler and Cooper, dated February 11, 1960, describing the strictly legal relationships between CMS, Inc. and the Society, and other matters concerned with the responsibility of all members of the CMS Board to the Corporation and to the public; b) a responding opinion submitted by I. E. Blodinger, New Haven, a physician member of the Board, and c) certain new contract proposals which had been introduced to the Board and the CMS Medical Advisory Committee by the CMS component of the ad hoc subcommittee of the CMS-CSMS Joint Liaison Committee, previously appointed to determine, if possible, the median family income in Connecticut.

These matters were received as information and no action was taken on them. It was suggested, however, that physician members of the CMS Board might wish to meet together informally for the purpose of seeking areas of agreement among themselves with respect to initiating proposals for a new CMS contract. No commitment of the Board members present was asked for nor received in this regard.

A letter was read which pertained to the Resolution of the Section on Orthopedics, submitted to the CMS Board for consideration in November, 1959. The letter follows:

"Concerning the matter of the resolution from the Orthopedic Section of the Connecticut State Medical Society in relation to CMS, the Board of Directors of CMS at its meeting on November 19, 1959, took the following action: 'That the matter of CMS payments to chiropodists be referred to the Medical Advisory Committee for study.'

At the meeting of the Medical Advisory Committee on March 1, 1960 the Chairman was asked to appoint a subcommittee to study the matter further and report back. As soon as this report has been received and acted upon, we shall be glad to inform you."

REQUEST FROM AMERICAN PHYSICAL THERAPY ASSOCIATION. It was VOTED to refer a request from the American Physical Therapy Association to the Section on Physical Medicine and Rehabilitation. This request reads as follows:

"Our local organizations are interested in working with medical societies in the best interest of improved patient care. If the society in your state is interested in establishment of a joint committee with representatives from our chapters for discussion of matters of mutual concern, such a relationship would seem to us to be desirable."

COORDINATOR FOR MEDICARE PLAN. It was VOTED that the Coordinator for Medicare be a function of the General Manager, who may seek such assistance as may be necessary under the existing terms of compensation by the War Department, and it was further VOTED that the services of Robert W. Hart, New Haven, be sought for this purpose.

CONNECTICUT MEDICAL EXAMINING BOARD. A letter from Joseph A. Fiorito, New Haven, in which was expressed thanks to the Council for their confidence in recommending him for appointment to the Connecticut Medical Examining Board, was read as information.

COMMUNICATION FROM MANAGING EDITOR OF JOURNAL. A communication from the Managing Editor of the Journal, relative to the expected increase in costs of the publication of the Roster for 1960, was read as information.

EXAMINING BOARD FOR PHYSICAL THERAPISTS. It was VOTED to recommend to the Governor the following list of doctors of medicine from which the Governor might appoint one to serve for a term of five years, starting July 1, 1960. The recent death of H. Bruno Arnold, New Haven, will create a vacancy on the Board as of that date.

John C. Allen, Hartford
Lee B. Green, Bridgeport
E. Cecil Eagan, Hartford

CONFERENCE OF PRESIDENTS AND OTHER OFFICERS OF STATE MEDICAL ASSOCIATIONS. It was VOTED to authorize payment of $75 annual dues to this organization.

ANNUAL REPORTS OF COMMITTEES. Summaries of a number of the annual reports of committees were listed, with particular reference to those which contained recommendations which will be acted upon by the House of Delegates at the annual meeting.

It was VOTED to direct the General Manager to inform the chairmen of all advisory committees that any recommendations they plan to make to the agencies to which they are advisory should be brought to the attention of the Council for prior consideration. In this way, it is felt that possible embarrassment to the Society, in the matter of "approving" policies and actions of these allied agencies, can be avoided.

REPORT OF THE NOMINATING COMMITTEE. The slate of officers and committees, prepared by the Nominating Committe for presentation to the House of Delegates at the annual meeting was read. The report was acted on as follows:

(1) Officers: President Elect—Thomas M. Feeney, Hartford; First Vice-President—Karl Phillips, Putnam; Second Vice-President—Alfred Schiavetti, Stafford Springs; Treasurer—I. S. Goldberg, Torrington; Secretary—William R. Richards, New Haven; Managing Editor of Journal—Denis S. O'Connor, New Haven; Literary Editor of Journal—Louis H. Nahum, New Haven.

Two Delegates and two alternates to the AMA, term January 1, 1961 to December 31, 1962—John N. Gallivan, East Hartford; John H. Grossman, Bridegport, Alternate; James R. Cullen, Hartford; Stewart P. Seigle, Hartford, Alternate.

Councilor-At-Large — Ellwood C. Weise, Sr., Bridgeport; Speaker of the House — Michael R. Scully, Bridgeport; Vice-Speaker of the House — Israel E. Blodinger, New Haven.

It was VOTED to approve the slate of officers as presented. A roll call vote was requested and carried out with the following results:

VOTED to approve: Drs. Weise, Gallivan, Goldberg, Richards, O'Connor, Cullen, Feeney, Scully, Cornwell, Kennedy, Buckley, Blodinger, Murray, Gilman, Pollock, Grendon, Chartier.

VOTED to disapprove: Dr. Davis.

Not present to vote: Drs. Gardner and Rentsch.

(2) Standing Committees: It was VOTED to approve the nominations of the Nominating Committee.

(3) Council-appointed Committees: It was VOTED to elect these committees as nominated by the Nominating Committee except to delete Adv. Comm. to Commission on Tuberculosis and Other Chronic Illnesses. On recommendation of the Nominating Committee, it was voted that the Committee on Investment of Funds shall engage the services of an investment counselor and that the Committee shall submit periodic reports to the Council based on the advice of the Investment Counselor. In conjunction with the report of the Nominating Committee, the General Manager requested the Chairman to read the following letter to the Council and this was done:

"I feel it is important and necessary for me to request, through you, decisions or opinions of the Council relative to the matters listed below. I therefore ask that this letter be introduced in conjunction with the report of the Nominating Committee at the Council meeting of March 10, 1960.

From the By-laws as amended through December 9, 1959: Article IX, The Council; Section 3, Duties.

Para. 2 "The Council . . . shall appoint a general manager to administer the affairs of the Society." "The general manager shall . . . observe all such restrictions as the Council may from time to time impose upon him. . ."

Para. 3 "The (nominating) committee, *after consultation and advising* with the entire Council, shall report its nominations. . . etc."

Since both of these duties must be discharged by the Council, I respectfully request a decision or opinion of the Council:

1. As to whether it desires to impose a restriction upon the general manager that he shall *not* be a candidate for elective office in the Society, and

2. As to whether such a restriction, if imposed, would be considered to be permanent or would be determined by the Council annually or at such other times as some one or some committee might wish to nominate the general manager for elective office, and

3. As to whether such a restriction, if imposed, would thereby be intended to exclude the general manager from being recognized officially to report or otherwise speak at meetings of the Council and/or the House of Delegates.

I believe these matters to be of some immediate and future concern to the Council, to the Society and to myself. I shall be pleased to excuse myself from the meeting in order that there may be a completely free discussion." (signed William R. Richards, M.D., General Manager.)

The Chairman asked whether it was desired to take action on the requests of the General Manager. No action was proposed or taken.

ADVISORY COMMITTEE TO THE ACCIDENT PREVENTION STUDY. A request was received from James P.

Shortal, M.D., Project Medical Director, U. S. Public Health Service, that an advisory committee be appointed to serve with the Accident Prevention Study now being carried on in the state. William A. Wilson, Chairman of the Committee on Public Health, had endorsed this request and forwarded it to the Council for consideration. It was VOTED to request the chairman of appropriate committees of the Society, Sections of the Society and unattached specialty groups, to recommend the names of members in the desired categories to serve on this Advisory Committee.

COMMITTEE ON MEDICAL CARE OF VETERANS. It was VOTED to accept the resignation of Joseph J. Bruno, New Haven, as a member of the Committee on Medical Care of Veterans.

ANNUAL DINNER. At the request of the Committee on Local Arrangements for the annual meeting, the members of the Council expressed a preference that the program for the annual dinner of the Society be of an entertainment, rather than of a scientific or educational, type.

1961 WHITE HOUSE CONFERENCE ON AGING. A request from the AMA was read, asking that representatives of the Society attend a conference on state-level pre-conference activities as follows: Chairman or member of the Committee on Aging; a physician on the Governor's Commission on Aging.

It was VOTED to request John Donnelly, Hartford, and James R. Miller, Hartford, to represent the Society, the expenses of their attendance to be borne by the Society.

MEETING WITH CHIROPODISTS. It was reported that, at the request of the Commissioner of Health, Drs. Weise, Richards, Burgdorf, Hastings and Fuldner met with the representatives of the Connecticut Chiropody Society, Inc. on March 3, 1960 to discuss the advisability of permitting practicing chiropodists to prescribe pain-relieving and anti-infective medications in association with surgical procedures which they are authorized to perform. Dr. Weise reported that the Society's representatives had been in general agreement that such permissive use of these medications was not in the public interest and had so stated at the meeting of March 3rd. Further conferences are being planned on this matter.

NATIONAL CONGRESS ON PREPAID HEALTH INSURANCE. Dr. Weise informed the Council that he had been requested by the AMA Council on Medical Services to appoint three representatives to attend this conference in Chicago on May 13-14, 1960. Since Dr. Weise indicated that he was willing to delegate the appointment of these representatives to the Council, it was VOTED that the Chairman appoint one, two or three members of the Society to attend this meeting at the expense of the Society.

CONNECTICUT JOINT COMMISSION FOR IMPROVEMENT OF CARE OF THE PATIENT. Dr. Feeney presented a letter from D. Dillon Reidy, Hartford, a representative of the Society on this commission. The letter requested that the Society, through the Council, give cognizance to certain materials prepared under the sponsorship of the Commission and to certain recommendations contained in a document titled "Report of Committee on Future Needs for Nurses." The members of the Council not having had an opportunity to peruse this extensive material, it was VOTED that the General Manager should prepare an abstract of the documents and submit this abstract for consideration at the next Council meeting.

COMMISSION ON SERVICES TO ELDERLY PERSONS. Dr. Weise brought it to the Council's attention that hearings on health care and its financing were to be held by the Commission as follows:

March 22—Hartford—State Capitol, 4th Fl. Hearing Rm. 10:00 A.M.

March 29—Stamford—Rehabilitation Center of Southern Fairfield County, 26 Palmer's Hill Rd., Stamford, 10:30 A.M.

April 5—Torrington—Maria Seymour Brooker Memorial, 157 Litchfield Street, Torrington, 10:30 A.M.

April 12—Norwich—Council Chamber of City Hall, 10:00 A.M.

It was felt that representatives of the medical profession might profitably attend these hearings, despite the fact that it is the intention of the Commission to hold separate hearings at a later date to solicit the views of the profession. It was VOTED to inform all county medical associations of the dates and places of these hearings, and to inform all key legislative people, as well.

DATE OF NEXT MEETING. It was VOTED that the Chairman and the General Manager set the date for the next meeting of the Council.

The meeting adjourned at approximately 7:30 P.M.

Meetings Held in April

7	Adv. Committee on Maternal and Child Health Services Committee on Relative Value Study.
13	Committee to Study Maternal Mortality & Morbidity.
14	Committee on Public Health.
20	Sub-committee on Toxemia.
21	Committe on Public Relations.

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Opinion Survey And Relative Value Scale

The following correspondence occurred between a member of the Society and the newly-elected president of the Los Angeles (California) County Medical Association. For purposes of identification the name of each correspondent appears at the end of each letter.

It is sensed that a form of organizational revolution occurred recently within LACMA over the terms of a proposed Blue Shield contract (the so-called Schedule "C") which had been approved by a previous Council. One of the first acts of the newly-elected group was to rescind approval of this contract.

This correspondence merits careful reading since it points out that a relative value schedule expressed in units can be considered benign and useful. When units are converted into dollars—when "fee schedules" are developed — serious differences of opinion may result.

WRR

January 15, 1960

Dr. W. F. Quinn, Secretary
Los Angeles County Medical Association
1925 Wilshire Boulevard
Los Angeles 57, California

Dear Doctor Quinn:

You will be rendering the Medical Profession of Connecticut a timely and most important service by sending me by return mail any information pertaining to the Relative Value Scale of the California Medical Association and a brief, which outlines the reasons for the rejection of this plan by the Los Angeles County Medical Association of California.

We are being asked to accept your Relative Value Plan for two years (to most of us sight unseen) as a basis for a new Blue Shield Contract. We have no plan of our own as yet and yours is to act as a stop-gap until our study is completed.

Your Society action should be a guide to clearer thinking on our part in avoiding the pitfalls of our own inexperience.

Yours truly,
H. A. Levin, M.D.,
Clerk

February 4, 1960

H. A. Levin, M.D., Clerk
The New Haven County Medical Association
362 Whitney Avenue
New Haven 11, Connecticut

Dear Doctor Levin:

Your letter of January 15th has been forwarded to me for answer.

We do not have any Relative Value Scale or Fee Schedule being used by the 7,500 members of the Los Angeles County Medical Association, nor are they being urged to use or adopt any such vehicle.

During the past 15 months our County Medical Association was confronted with the statement that some type of a fixed Fee Schedule arrangement should be adopted. During this time considerable discussion, pro and con, ensued. I realize that California, and most particularly Los Angeles County, has been quoted and misquoted, and I emphasize misquoted, throughout the Country concerning our official position with the so-called Relative Value Study and often called the Relative Value Schedule. Some confusion has arisen—as to what Los Angeles County has accepted or not accepted, in the past year, particularly around a set of "Criteria" and the late L.A.M.P. (Los Angeles Medical Plan)—that I must take a little time and explain the history of the situation.

Several years ago the so-called Relative Value Study was proposed by our State organization, the California Medical Association. This was meant to be a study of the "relativity" between fees and various procedures each doctor individually used. Compilation of all these hundreds of listed procedures was tabulated according to "units." The idea and theory behind it was that each physician could determine the monetary value per "unit." This was an idealistic endeavor but as so often happens in medicine and medical economics it boomeranged against the profession. It has now turned out to be true that merely changing the price of the "unit" or conversion factor or monetary value in dollars and cents of the "unit," that any Fee Schedule could be automatically and quickly changed and manipulated by any Society or Welfare Fund or insurance company or any other third party or group.

Since I happen to also be an officer of the California Medical Association, a member of the Council, I can emphatically state that the California Medical Association never has intended nor has it caused to be adopted, that the Relative Value Study is an official Fee Schedule, nor intended to be used as such. Of course, you can see, Doctor, that any person could take the Relative Value Study and assign a "unit" anywhere between $1.00 and $10.00.

The Relative Value Study was completely assembled for the first time in 1955 when about half of the Doctors in the State sent in questionnaires concerning the procedures involved in their practices. This information was completed the following year from such a survey. This became the first Relative Value Study and it was also called the Relative Value Survey. The estimated price per "unit" was established as of 1956 by anyone who wished to set his own price on the "unit." Unfortunately, many companies and other providers of insurance are even today using the information from 1956, while in the meantime the "unit" value of many procedures has obviously increased and there is a completely new Relative Value Study as of 1958-1959 with more up to date information. Therefore, it is easy for any seller or buyer or provider of insurance to glibly state that this is the California Medical Association Relative Value Schedule or Study with a "unit" value of $3.00 or $4.00, or $5.00, or $7.00 for the sole purpose of selling or buying something, and the California Medical Association is left unaware of the transaction and had never intended to give it any direct or implied sanction.

Early in 1958 a Schedule was put out by the California Physicians' Service (this is the Blue Shield organization in California) and called Schedule "C" for families with a $7,200 income ceiling, using the Relative Value Study and the conversion factor of $5.00 (per unit). Without asking its large membership, the Council of the Los Angeles County Medical Association adopted this Schedule and it became binding on all of the physicians in the County who are physician members of the California Physicians' Service, or C.P.S., as full payment for services listed in the Schedule. Not all of the physicians in the State or Los Angeles County, belong to C.P.S. They can avoid much of the trouble incumbent with service type contracts and Fee Schedules, and can therefore accept payment for their services from C.P.S. on an "indemnity" basis. We will come back to Schedule "C" later, since it was the first event which created confusion in this County Medical Association.

Toward the end of 1958, the Los Angeles Medical Association Council attempted another scheme entitled the "Criteria" for prepayment plans, etc." This contained Schedule "C" for C.P.S. members and intended to also include the non-members. It also provided means whereby the insurance agent or broker could write directly to a patient and inform him that his physician overcharged or was not using the Relative Value Schedule or was not charging what was "usual, customary and ordinary" in the community. It also allowed the physician to interfere between the patient and the seller or provider of insurance, and other provisions of minor detail, but nevertheless annoying to the physician.

Following this, the L.A.M.P. plan was proposed but never adopted. It set up an arbitrary fixed Fee Schedule with an outside Executive Board with very autocratic authority. After two open meetings, unprecedented in this extremely large County Association, the Council was ordered by the membership to drop the promotion of the L.A.M.P. plan or any similar scheme. In the meantime the "Criteria" boomeranged, the Insurance Committee of the Association became swamped with "complaints" from the insurance people to the extent that it became willing to throw in the sponge.

All of these factors—the Relative Value Study, Schedule "C," the "Criteria" and the L.A.M.P. plan were issues of the election of new officers, and obviously I am one of them. Just prior to the election the "Criteria was rescinded, the L.A.M.P. plan, of course, was rejected and immediately following the election, the action of the Council in adopting Schedule "C" was reversed and it was rescinded. This latter point brings you up to date on the remark on Schedule "C" above.

I might make a remark on "Foundations." In attending regional and national meetings on insurance it has been shown "Foundations" have their appeal only in California. The Foundation for Medical Care in San Joaquin County has received nationwide publicity because 85 per cent of the doctors in that County agree to take care of the patients involved. It is often overlooked that this County has only about 215 doctors and that the population of the County is only 200,000; and that the two large employed groups covered by the Foundation, number less than 10 per cent of the population of that County. In June 1959, the Journal of the A.M.A. erroneously printed that Los Angeles County Medical Association had adopted a "Foundation for Medical Care."

Therefore, Doctor, we do not have any Relative Value Study, Schedule, set of Scales or Plan which is official and being used by our membership. If I, or any other individual physician wishes to apply the principles of the Relative Value Scale to his individual practice that is his privilege, but the Los Angeles County Medical Association in no way sets up any official Fee Schedule or set of Scales, or whatever you wish to label it, nor does the California Medical Association.

Should there be any further information, you can direct inquiry to our Insurance Committee. I can refer you to Elmer F. Gooel, M.D., Chairman, 9735 Wilshire Boulevard, Beverly Hills, California, or David B. Kuris, M.D., 6010 Wilshire Boulevard, Los Angeles 36, California. At the present time we are suggesting pre-paid sickness insurance, using the indemnity principle.

Please excuse the delay in answering your letter of January 15th. I received it early last week but misplaced it, so sent the explanatory letter of January 27th.

Wishing you every success in trying to solve some of these knotty insurance problems, I am

Very sincerely yours,

Joseph P. O'Connor, m.d.
President

February 15, 1960

Hyman A. Levin, M.D., Clerk
New Haven County Medical Association
362 Whitney Avenue
New Haven, Connecticut

Dear Doctor Levin:

This is to confirm the telegram which I sent last night. You have my permission to publish my letter of February 4, 1960 in "Connecticut Medicine."

The letter of February 4, 1960 was intended to be a factual account centering around the controversy of fixed fee schedules via the mechanism of the Relative Value Scales, Blue Shield, or the same thing under some other name such as the "Criteria for Pre-paid Medical Plans" or a Foundation for Medical Care or a plan such as the rejected L.A.M.P. (Los Angeles Medical Plan). The rejection of these Relative Value Scales, etc., was on the basis that the private practice of medicine was submitting to regulation by third parties and yielding to rigid self regimentation by segments of our own profession. Such a course sets a pattern for the ever increasing socialization of the practice of medicine often by the doctor's own representatives, often without his consent or prior knowledge. The issue is not definitely settled here in California. No alternative plan of a glamorous nature has been offered except that most of the profession in Los Angeles County urge that all pre-paid sickness, health, accident, and hospital benefits be handled via the "indemnity principle" through the very fine private insurance industry which we have in this Country. This will be one of the principal issues to be debated at the Annual Session of the House of Delegates of the California Medical Association to be held next week.

In short, I think the problem will center down to a simplified question here in California, as elsewhere—that a physician's fee for any procedure via insurance will be accepted as payment in full according to the established Fixed Fee Schedule; or, that insurance benefits will be derived on the indemnity basis and the fee schedule attached thereto may or may not be in full for the services which the physician had to render in that particular case.

Very sincerely yours,

Joseph P. O'Connor. m.d.
President

That the House of Delegates of the parent California Medical Association does not share many of the views of Dr. O'Connor and the Los Angeles County Medical Association can be clearly ascertained by reading the following Ciba Medical News item:

W. R. R.

Drive to Limit California Blue Shield Dealt Crushing Defeat

LOS ANGELES — Attempts by an organized group of Southern Californians to curtail sharply the activities of California Physicians' Service (the State's Blue Shield plan) were overwhelmingly defeated at the final session of the California Medical Association House of Delegates annual meeting here.

The Southern California group, which calls itself LA MESA (for Los Angeles Medical Economic Study Association), presented to the House resolutions designed to:

1. Bar the CPS (which is CMA-controlled) from signing service-type contracts with groups controlled by a government agency. This move would have outlawed coverage for nearly 700,000 Federal Government employees and their dependents scheduled to get a new service plan starting July 1.
2. Prevent further study or adoption of California's relative-value fee schedule by CMA and its component societies.
3. Limit future CPS coverage to persons with an annual income of $4,200 or less.

LACK OF STRENGTH

Many of LA MESA'S proposals were first watered down in reference committees, where the group failed to muster hoped-for support among Southern California physicians. Final defeat came as the House's 388 delegates voiced their disapproval so clearly that no show of hands or balloting was deemed necessary.—*Ciba Medical News, March 9, 1960.*

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Clinical Medicine

MITRAL COMMISSUROTOMY DURING PREGNANCY

A Case Report

Samuel Spinner, m.d.

Introduction

Heart disease, according to Friedberg,[1] occurs in one to seven per cent of pregnant women. About 90 per cent of the heart conditions are of rheumatic origin, and in the rheumatic group, mitral stenosis occurs in about 75 per cent of cases. It has been calculated[2] that the work load of the normal heart increases during pregnancy from the fourth to the eighth month, reaching 50 per cent above the normal.

If the cardiac reserve in mitral stenosis is very small (Class III or IV of the N. Y. Heart Association Classification), then the risk of pregnancy becomes considerable (maternal mortality 15-18 per cent, fetal mortality 30 per cent.) [1]

Until a few short years ago clinicians who were faced with such an "unfavorable" patient (where heart failure occurred), would advise termination of pregnancy (from below in the first two months, and by hysterotomy in the third to fifth months), or allow the patient to proceed to term (thereafter) under strict cardiac treatment.

With the advent of cardiac surgery and the development of mitral comissurotomy, it became possible to offer these "unfavorable" patients another way out of their dilemma which lowered the risk for both mother and child.[3, 4, 5, 6, 8]

The present case report highlights the problems encountered in a pregnant patient with mitral stenosis and in congestive failure.

Case Report

This 31 year old female housewife was admitted to the hospital when 4½ months pregnant, because of shortness of breath of one week's duration. This difficulty in breathing was chiefly paroxysmal and nocturnal.

Her *past history* was significant in that six years ago she had had an episode of acute rheumatic fever with carditis. This was apparently treated adequately with cortisone, but nonetheless was followed by evidence of mitral stenosis (asymptomatic). Four years ago, in the seventh month of her first pregnancy, the patient developed an episode of acute pulmonary edema, which responded to emergency hospital treatment. Subsequently she was treated by maintenance digitalis, limitation of activity, and a low salt diet, until delivery (by Caesarian section) near term.

Examination revealed a well-developed, well-nourished female, breathing fairly easily while sitting up. No cyanosis. Neck veins flat. Lungs clear to percussion and auscultation. No peripheral edema. Abdomen showed the uterine fundus below the umbilicus, and the spleen tip could be felt below the costal margin on deep inspiration. The heart was moderately enlarged to the left by percussion; the rate was 110/minute; the rhythm was regular. At the apex, a definite thrill was felt, and both systolic (grade two) and diastolic (grade three) murmurs were heard. There was also a grade two blowing systolic murmur at aortic area.

Laboratory Data: Urinalysis: specific gravity 1.006, albumin negative, sugar negative, microscopic: rare WBC.

Blood count: Hgb 10.4 gms. WBC 11,600 with P 82 per cent, L nine per cent, M four per cent, Eos four per cent, Basos one per cent.

Hematocrit 34. *Sed rate* 51 (corrected to 36). VDRL non-reactive. Prothrombin time 14.0/14.4 sec. (100 per cent)

Blood Chemistries: FBS 69. NPN 24. Total protein 6.98 gm per cent (albumin 3.33 gm per cent; globulin 3.65 gm per cent)

Electrolytes (in mEq/L): CO_2 23.1; Cl 101; Na 140; K 4.2.

Liver Function Tests: Serum bilirubin: direct 0.04; total 0.4 mg/100 ml. CCF 1+/1+. Thymol turbidity 0.7. Thymol Flocculation negative. Alkaline phosphatase 2.5 Bodansky units.

Urine bile 0. Transaminase 10.3. Urine urobilinogen positive in a dilution of 1:4. Coombs test (direct and indirect): negative. Antistreptolysin titre 50 units. C-Reactive protein 1+. Five blood cultures: negative. Venous pressure 95 mm. H_2O. Circulation time 13 seconds. Bleeding time: one minute 25 seconds (IVY). Clotting time: Tube 1:4′ 15″; Tube 2:5′ 30″; Tube 3:5′ 45″. Brachial artery upstroke time was normal. I.V. PSP: $\frac{1}{2}$ hr five per cent; one hr 41 per cent; two hr seven per cent; total 53 per cent.

X-ray of the chest showed changes consistent with marked pulmonary engorgement. Subsequent X-ray studies of the heart (by fluoroscopy, with barium swallow) showed evidence of left atrial enlargement plus persistent pulmonary congestion.

An EKG showed sinus tachycardia and digitalis effect.

Course in Hospital: Patient was treated with bed rest, low salt diet (500 mg), mercurials, and full digitalization. She responded promptly to treatment with a return of her heart rate to the normal range within 24 hours, and a nine pound reduction in body weight during the first week. However, X-ray signs of pulmonary congestion persisted.

In view of the fact that the patient had developed congestive heart failure for the second time, and relatively early in this pregnancy, and because the dominant valvular lesion seemed to be mitral stenosis, a surgical consultation was requested with a view to commissurotomy during pregnancy, to permit its safer completion.

Two weeks after admission to the hospital, cardiac surgery was performed. The mitral valve opening would admit only the tip of the fifth finger. There was no regurgitant jet. The valve was fibrous but not calcified. A $2\frac{1}{2}$ finger opening was obtained by a split in the anterolateral commissure. Pressure studies at operation were reported as follows:

	PRE-COMMISSUROTOMY PRESSURES IN MM. OF HG	POST-COMMISSUROTOMY PRESSURES IN MM. OF HG
Jugular Venous Pulse Waves		
acv:cv difference (v>c)	11	8
Left auricle	32/21	27/19
Left ventricle	115/5	95/8
End diastolic gradient	16	11
Pulmonary artery	44/25	40/25
Aorta	109/69	85/63
Cuff (Brachial artery)	106/?	90/50

The postoperative course was quite satisfactory, and she was discharged 13 days after surgery on restricted activity, a low salt diet, maintenance digitoxin (0.1 mg/day), and prophylactic penicillin.

Further follow-up: two months after commissurotomy, the patient developed an episode of dyspnea and orthopnea on exertion. The patient admitted straying from her low salt diet. She responded quite promptly to salt restriction and an oral diuretic (Diamox®), with loss of her respiratory symptoms and a four pound weight loss. Her dose of digitoxin was increased to 0.2 mg daily.

Four months post-commissurotomy the patient was delivered uneventfully by repeat Caesarian section. On the second post-partum day, the pulse rose sharply to 120/min, and gradually returned to normal over a period of one week. No other evidence of cardiac embarrassment could be found on repeated examinations.

Further follow-up for one year after this delivery has been uneventful. The patient is asymptomatic on the full activity of a busy housewife raising two children.

Discussion

At the age of 27 this cardiac (rheumatic heart disease with mitral stenosis, Class II) had one bout of acute pulmonary edema in the seventh month of her first pregnancy, and was carried successfully to term by careful medical supervision. Pregnancy was terminated by Caesarian section without complication. If present-day concepts of cardiac work loads during pregnancy are accepted (the peak load developing during the eighth month, and the strain of labor being normally less than that of pregnancy),[1] then it would have been proper to allow this patient to deliver spontaneously.

At the age of 31, this patient again developed evidence of heart failure (pulmonary congestion), when only $4\frac{1}{2}$ months pregnant. Medical treatment for two weeks did not completely clear the pulmonary congestion. Several choices in clinical management seemed available at this point. The pregnancy could have been terminated (by hysterotomy) and commissurotomy performed later. Another method would involve an attempt at prolonged intensive medical care in an effort to permit completion of the pregnancy without surgery. The third choice, which was followed in the present case, involved doing a commissurotomy during pregnancy so that the risk of continuing the pregnancy would be minimized.

The recent literature presents somewhat divergent views on the wisdom of commissurotomy during pregnancy. One point of view expressed by Kaufman & Ruble[6] suggests that the load of valve surgery is probably less than the load of therapeutic abortion in the second and third trimesters. Burwell & Metcalfe are cited by Marshall & Pantridge[5] as stating that surgery of the mitral valve in pregnancy should be avoided if at all possible, and only performed when "the safer procedure of interruption is not practicable." Friedberg[1] takes a middle position by first stating that vigorous medical treatment will almost always permit completion of pregnancy without operation. He then adds that, if the heart failure does not respond, a mitral commissurotomy may have to be performed. The figures given in a report by Igna et al,[7] concerning six mitral stenosis patients subject to commissurotomy during pregnancy because of severe deterioration in cardiac reserve, indicate that they were all upgraded to Class I, and remained so. At the time of their writing two had full-term normal deliveries, one was premature at seven months, and two were still undelivered. Wade and others[3] reported 12 such patients operated upon during pregnancy (10th to 31st week), with 11 survivals (10 of which were upgraded to Class I and one to Class III). They also reviewed the Anglo-American literature, and discovered 77 cases with one maternal death. Of the 76 survivors, three had operatively induced abortions; the remaining 73 went to term, and had normal deliveries. They calculated on the basis of these 89 cases that the operative mortality was 2.2 per cent, and the abortion rate was 5.6 per cent. Friedberg[1] cites Hamilton & Thomson, who observed, in 95 "unfavorable cases" (heart failure, atrial fibrillation, or complicating serious disease) treated medically, a maternal mortality rate of 16.7 per cent. In 655 "favorable cases" their maternal mortality rate was 2.3 per cent. Therefore, on a statistical basis, the evidence suggests that commissurotomy before the peak load of pregnancy, in patients with depleted cardiac reserve, apparently carries no additional risk, and does improve the prognosis for both mother and child.

The fact that successful commissurotomy is no guarantee of a good functional result, and that even post-operatively these patients must be closely supervised, is emphasized (in the case being reported) by the occurrence of an episode of dyspnea on exertion, and orthopnea, two months post-operatively (seventh month of pregnancy). Igna et al,[7] in discussing the management of the pregnant patient with a previous commissurotomy, point out that careful watching is still needed, not only during gestation, but also during the first 12 hours post-partum (when the development of tachycardia, orthopnea, and basal rales may indicate the beginnings of acute pulmonary edema). The presently-reported case, in developing a tachycardia about 48 hours post-partum, gives weight to the need for every precaution.

Summary

1. A case of mitral stenosis, successfully treated by commissurotomy during pregnancy, is reported.

2. The indication for commissurotomy was heart failure (pulmonary congestion) during the second trimester of pregnancy.

3. The relative risks of valve surgery, therapeutic abortion, and intensive medical care in such patients are discussed.

4. The need for careful close medical supervision of cardiacs during pregnancy and also post-partum (even after successful commissurotomy) is emphasized.

ACKNOWLEDGMENT

In the clinical management of this patient, I was assisted by Dr. Samuel Millen, Fred Gibson (obstetrician), and William S. Bloomer (surgeon).

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Around The State

New Haven County

Maurice M. Hillman attended the convention of the American College of Allergists at Americana Hotel, Miami Beach, Florida last month.

Anthony J. Pepe attended the clinical congress of the American Medical College of Surgeons in Boston last month.

Fairfield County

Burton Fern has been selected as the Raymond T. Goldbach VFW Post's "Man of the Year," it was announced last month by Past Commander Edmund Lowrey, chairman of the seven member selection committee. The choice was unanimous. It was the second major award for the courageous doctor, who suffered a severe attack of polio in 1955. He was also named "man of the year" by the Junior Chamber of Commerce and received that group's Distinguished Service Award. Last year a room in one of Harvard's new buildings was named in his honor. He is a 1946 graduate of the Cambridge school.

Hartford County

Samuel B. Rentsch has developed a submarine escape suit. Dr. Rentsch is a former Navy medical officer. Spokesman for the New London, Connecticut submarine base said the Navy is perfecting the suit. Dr. Rentsch has tested the coated-nylon suit several times, once wore his Navy dress blues to prove it is waterproof.

Middlesex County

Donald Arnault, Harry Frank and Vincent Vinci attended the sectional meeting of the American College of Surgeons in Boston early in March.

Eugene Callender who had been in general practice in Chester for 30 years died on February 3.

Edith Mittell was recently appointed Killingworth health officer.

PLACEMENT WANTED

The Society's Placement Service is in receipt of the following:

James C. Roberts, Jr., Age 34—M.D. University of Rochester, Rochester, N. Y., 1949—Specialty Pathology.

ANY MEMBER OF THE SOCIETY KNOWING OF AN OPPORTUNITY FOR PLACEMENT OF THE ABOVE PHYSICIAN IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

The Doctor's Office

Bennett Barton, M.D., announces the opening of an office for the practice of obstetrics and gynecology at 657 Enfield Street, Thompsonville.

Stanley B. Freeman, M.D., announces the opening of his office for the practice of ear, nose, throat and facial plastic surgery at 33 Lexington Street, New Britain.

Robert L. Madison, M.D., announces the opening of an office for the practice of obstetrics and gynecology at 110 Prospect Street, Stamford.

Charles W. Mauks, M.D., announces the opening of his office for the general practice of medicine and surgery at 79 West Street, Danbury.

Small Hospital Staffs Can Do Open-Heart Surgery

Open-heart surgery, generally performed only in large medical centers, is "entirely within the realm" of many small city and community hospitals, according to four staff members of such hospitals.

Writing in the current Journal of the American Medical Association, they said there is no need for "an assemblage of a vast throng of superscientists" to accomplish heart surgery. All that is needed is "a trained surgeon and an interested and dedicated group of workers."

Neither need there be a "complex wilderness of gadgets" surrounding the heart patient. Small hospitals can provide the necessary equipment—mainly a mechanical heart-lung machine—and do not need to go into obtaining physiological data, which requires many expensive machines. The large medical centers can do this.

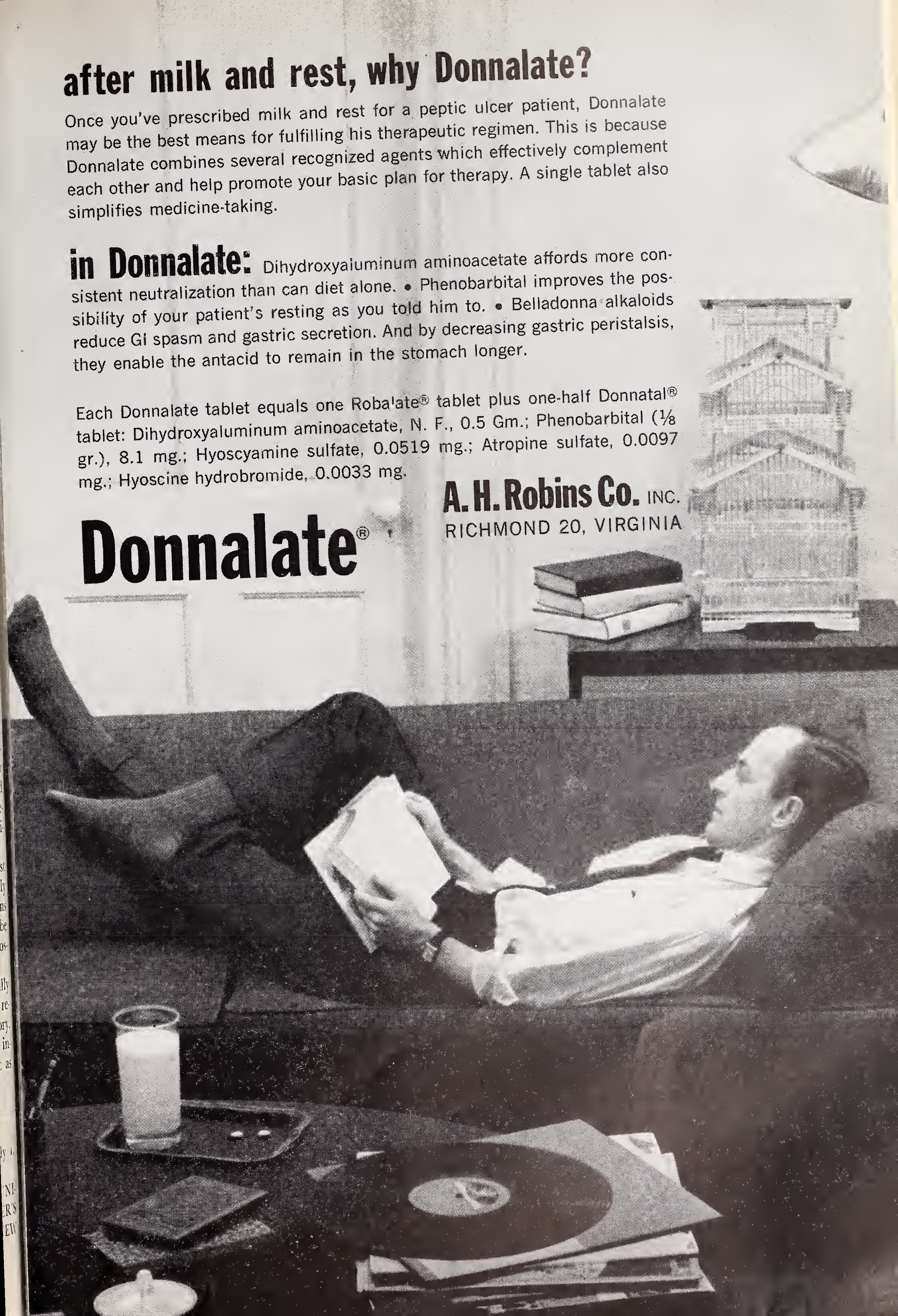
The authors pointed out that there are at least 25,000 persons in the United States who annually are eligible for heart surgery. Many of these persons who otherwise could not receive treatment can be saved if heart surgery is performed in small hospitals.

Each member of the operating team must be fully trained in his role in the operating room by repeated performance in the experimental laboratory. Repetition in the laboratory will make each individual procedure "as perfect and mechanistic as that of eating a meal," the authors said.

PLACEMENT OPPORTUNITIES

WANTED—House Physician (Pathologist) July 1, 1960— Fairfield County.

FOR FURTHER INFORMATION COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.



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Annual Meeting

Doctor Wilfred Bloomberg, Commissioner of Mental Health for the State of Connecticut will be the featured speaker at the annual luncheon of the Woman's Auxiliary to the Connecticut State Medical Society to be held Wednesday, April 27th at the New Haven Country Club.

Registration will open at 10:00 A.M. followed by the annual business meeting and election of officers.

Luncheon will be $3.00, tax and tip included. Firm reservations should be sent before Friday, April 22nd to Mrs. George Rosenbaum, 16 Vardon Road, West Hartford. Please make checks payable to the Woman's Auxiliary to the Connecticut State Medical Society.

Directions for reaching the New Haven Country Club are:

From Northern Connecticut, take Merrit Parkway, Exit at 63, North Haven, Bishop Street, turn left onto Hartford Turnpike and proceed 4.2 miles. From southern Connecticut take Merrit Parkway, Exit at 63, turn left and proceed over bridge then turn left on Hartford Turnpike and proceed 4.2 miles to entrance of club.

Art Exhibit

Mrs. Ernest Rosenthal, Chairman of the Art Committee of the Woman's Auxiliary has met with Doctor John Freiheit and his standing Art Committee to make all necessary arrangements for the coming Art Exhibit.

The Art Exhibit will be held in connection with the Annual meeting of the Connecticut State Medical Society at the Hamden High School, Hamden, Conn. on April 26, 27 and 28th inclusive. Members of the Connecticut State Medical Society, their wives and children are invited to exhibit their works of art at that time.

A special effort is to be made by the County Art Chairmen to revive an active interest among the doctors and their wives and children in this exhibit. We especially like to urge the more advanced and professional artists among us to contribute to this show, so that we can bring the show to the highest possible level. We have many fine artists among this group and we would like to show the best our doctors have to offer. The exhibit is viewed and enjoyed by most people attending the meeting. However, this should not discourage the beginner since the show will be judged in four groups, with prizes to be given in each.

1) Children up to 16 years
2) Beginners up to 3 years
3) Advanced—over 3 years
4) Professionals

The best Physicians entry in the show will be exhibited at the American Medical Association Meeting in Miami in June.

The Exhibit will be judged by professional artists. For further information exhibitors may contact the following chairmen:

Dr. John Freiheit, Chairman, Connecticut Physicians Art Association, 85 Grove Street, Waterbury, Conn.

Mrs. Ernest Rosenthal, State Art Chairman, Women's Auxiliary to the Connecticut State Medical Society, 17 Pine Road, West Hartford, Conn.

Mrs. Saul Meltzer, Fairfield County, 316 Sailors Ave., Bridgeport, Conn.

Mrs. Lawrence Harris, Litchfield County, 34 Union Street, Thomaston, Conn.

Mrs. Joseph Magnano, Middlesex County, Chamberlin Road, Middletown, Conn.

Mrs. Elliott S. Brand, New Haven County, 145 Cleveland Road, New Haven, Conn.

Mrs. Albert Gosselin, New London County, R.F.D. No. 4, Lisbon, Conn.

Mrs. Sherman Waldron, Windham County, R.F.D., North Grosvenordale, Conn.

County Calendar

Fairfield

March 1—Board meeting at the President's home in honor of the incoming president.

March 26—Dance in Ridgefield with the proceeds for A.M.E.F.

April 20—County annual meeting at Shore and Country Club, Norwalk.

HARTFORD

March 9—Board meeting.

March 16—Book-author luncheon at G. Fox & Company. Proceeds for A.M.E.F.

April 6—County annual meeting at the Hartford Golf Club, Hartford.

LITCHFIELD

March 8—Board meeting.

Annual meeting to be announced later.

MIDDLESEX

March 7—Regular meeting.

April 4—County annual meeting at the Grantmoor Restaurant, Berlin.

NEW HAVEN

March 8—Board meeting.

March 24—County annual meeting at 2:00 P.M. at New Haven Lawn Club. The movie "Helping Hands for Julie" will be shown. A Fashion Show will also be given.

NEW LONDON

April 19—County annual meeting at the Seaside Sanitarium.

May 11—Annual Spring Dinner Dance at the Lighthouse Inn, New London. Proceeds for A.M.E.F.

WINDHAM

March 17—Annual A.M.E.F. St. Patrick's Day Dessert bridge at Nathan Hale Hotel, Willimantic.

Deaths And Relapses From Staph Infection Greater In Newborns

Mortality, morbidity, and relapse in staphylococcal infection were higher in newborn babies than in older infants and children, a Baylor University College of Medicine team reported in a study of 204 cases at Jefferson Davis Hospital.

The team said that 103 of 138 more seriously ill patients recovered, "two were left with residual involvement," and 33 died. Of the 33, 24 were in the newborn group. Seriously ill patients treated with bacteriostatic drugs or bacteriostatic drugs plus penicillin or streptomycin had a mortality rate of 22 per çent; the mortality rate was 13 per cent for patients treated with kanamycin or with bacitracin alone or in combination with a bacteriostatic drug.

In their report in *The Journal on Pediatrics* Doctors Martha Dukes How, Murdina M. Desmond, and Laurance N. Nickey said the mortality rate in the 138 was 43 per cent for premature infants, 26 per cent for full-term newborns, 21 per cent for children from two months to two years, and 11.7 per cent in older children.

"The degree of dissemination was related to the age of the patient, demonstrating inadequacy of host defenses in the young infant," the team pointed out. Emphasizing the difference in management of staphylococcal disease in the young infant and the older child, Drs. Yow, Desmond, and Nickey declared that "all staphylococcal infections must be considered potentially serious in the young infant because of the atypical manifestations and unpredictability of the course of staphylococcal disease in this age group."

Heart Ailments Top Killer of Aged

Diseases of the heart and blood vessels are the major cause of death among persons over 80, a study conducted at the University of Colorado indicated recently.

Dr. R. M. Mulligan of the department of pathology, University of Colorado School of Medicine, Denver, reported on his study of more than 300 deaths in the current American Medical Association Archives of Pathology.

He said an evaluation of fatal disease of old age should help doctors anticipate and treat ailments among elderly patients at an earlier and more amendable stage.

Autopsies performed on 336 persons who died in Colorado General Hospital between 1940 and 1955 showed 37 per cent died of cardiovascular disease, 16.3 per cent of cancer, 12.4 per cent of infectious diseases, and 12.1 per cent of accidental injuries.

High blood pressure was the leading killer among cardiovascular disorders followed by hardening of the arteries. The most prevalent type of cancer was that of the prostate gland. The most frequently fatal infectious disease was bronchopneumonia.

Heart disease and cancer are the number one and two causes of death among the general population. Cancer of the skin is the most prevalent type among persons of all ages.

The study indicated a higher ratio of heart disease, cancer, and infectious disease among men than women.

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References: 1. Ayd, F. J., Jr.: Bull. School Med., Univ. Maryland *44*:29, 1959. 2. Azima, H., and Vispo, R. H.: A.M.A. Arch. Neurol. & Psychiat. *81*:658, 1959. 3. Lehmann, H. E.; Cahn, C. H., and de Verteuil, R. L.: Canad. Psychiat. A. J. *3*:155, 1958. 4. Mann, A. M. and MacPherson, A. S.: Canad. Psychiat. A. J. *4*:38, 1959. 5. Sloane, R. B.; Habib, A., and Batt, U. E.: Canad. M.A.J. *80*:540, 1959. 6. Straker, M.: Canad. M.A.J. *80*:546, 1959. 7. Strauss, H.: New York J. Med. *59*:2906, 1959.

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Book Reviews

DIRECTORY OF THE MEDICAL LIBRARY ASSOCIATION. By the Medical Library Association, The Shoe String Press, Inc., Hamden, Connecticut, 2d edition 274 pp. $7.00.

Reviewed by Frederick G. Kilgour

This work is not a listing of all medical libraries but rather those libraries which are members of the Medical Library Association. As such it must be that it includes all medical libraries which enjoy any degree of activity of interest to others. Some idea of its completeness may be gained from the fact that the directory registers 16 medical libraries in Connecticut. The arrangement of the libraries is by state and foreign country; there are 478 of the former and 74 of the latter. There is also an alphabetical index of libraries.

The information given under each library includes the address, telephone number, the number of volumes, number of current periodicals received, whether interlibrary loan, photostating, and microfilming services are available, special historical collections, and the name of the librarian and assistant librarian. In addition, there is a separate list of the individual members of the M.L.A.

This directory should be in every medical library that is more than an unused collection of dusty volumes. Moreover, every physician who uses medical libraries should have a copy, for he will find that it will greatly facilitate obtaining books, photocopies, and information.

"CHRISTOPHER'S MINOR SURGERY—8TH EDITION." Edited by Alton Ochsner, M.D. and Michael E. DeBakey, M.D. Publisher—W. B. Saunders Company, Philadelphia, Pennsylvania. PP. 539.

Reviewed by Denis S. O'Connor

Since this book was first offered to the medical profession about 30 years ago it has occupied a valued place in the office of the doctor who must of necessity do some surgery as part of his general practice.

This latest addition, under such distinguished editorship, insures the most advanced ideas on the urgent emergency surgery which confronts the general practitioner.

The chapters on surgical organization, technique, burns, fractures and lacerations have the widest value but even the editors seem to be uncertain as to what additional material should be included in a volume of this type.

Practically every surgical condition outside of chest, abdominal and brain surgery is discussed to some degree but most of these conditions are beyond the field of minor surgery. It may well be that the practitioner for which this book is intended may need to acquire familiarity with these surgical conditions not in order to treat them but to more intelligently refer them to more surgically trained colleagues.

A SHORT HISTORY OF PSYCHIATRY. Ackerknecht, Erwin H., translated from the German by Wolff, Sulammith. Hafner Publishing Co., New York, 1959. 98 pp. $3.50.

Reviewed by Bryant M. Wedge

This pithy little volume by the professor of the History of Medicine at the University of Zurich has several points to recommend it to those especially interested in medical history or psychiatry. In his first and best chapter the author points out that the prevalence and definition of mental disease depend upon social circumstances. He goes on to succinctly summarize the great schools and the great names with a refreshing frankness of bias, e.g., for the sake of Pavlov's reputation he would rather not have discussed his contributions to psychiatry. Although there is a regrettable lack of thematic interpretation, this history, as is always the case, serves to put us in our place and teach us humility. One is reminded that, compared to most of medicine, psychiatry is a relatively new and diffuse clinical science.

I can only recommend this volume to buffs of medical history, it will not replace Zilboorg's *History of Medical Psychology* as a standard American work, although it is a pleasant antidote for the cants of that work.

HELPING YOURSELF WITH PSYCHIATRY. A practical guide to wiser and healthier living. Frank S. Caprio, M.D. Prentice-Hall Inc. Englewood Cliffs, N. J. 1957. 251 pp.

Reviewed by Louis H. Nahum

The author is a practicing psychiatrist who attempts in 22 sessions to give basic rules for understanding oneself and helping oneself. There is no doubt of the authenticity of the psychological techniques by which the reader is given the clues for searching out his early life and for understanding the influence of parents and the childhood home.

The book in its opening page starts with a compelling paragraph which is a modification of a quote from William James: "Most of us go through life knowing only half of ourselves, so we use only half our resources of ability and confidence and happiness. Great areas of strength remain hidden. We suffer because we are strangers to ourselves."

From this it would appear that almost everyone could be better, more confident with his tasks of life and more happy than he really is and that all of us need a thorough acquaintance with the contents of this book. Furthermore it is estimated that 14 million people need psychiatric care and since 20 patients a week and at times a year is all a psychoanalyst can handle it would require 700,000 psychoanalysts to deal with the problem. It becomes self-evident that other methods besides a psychoanalyst are urgently necessary in our present troubled civilization to cope with our inadequacies, and our sufferings. Into this breech Dr. Caprio has boldly entered. From the first pages one is convinced that the author does not suffer from lack of confidence and from inability to use his resources to the full. In 251 pages he has explained to the reader dynamic psychiatry, the meaning of dreams, the mind and how it functions and what it is important and necessary to know about the unconscious. Here and there the word subconscious instead of preconscious creeps in but on the whole the terminology is simple and correct.

The epigrammatic nature of the book is astounding. The pages abound with aphorisms from every area of the mind, and social relationships. "To live peaceably with the world we must first be able to live peaceably with ourselves." "Civilized man will never learn to live wisely until he has been able to understand how his mind operates."

You can control your unconscious is the author's thesis and he proceeds to present techniques of self-analysis: the autobiographical method, the questionnaire method and the free association method. Some emotions are to be regarded as psychological poisons which need mental catharsis. By following these three methods in turn the author believes the individual reading this book can free himself from frustrations and hates which in time will appear ridiculous to him.

Hardly any part of life is overlooked. Marriage, the deeply hidden factors that make it happy or miserable is considered. There are specific instructions and suggestions for avoiding frustrations, for steering clear of conflicts, for making friends and winning confidence. He wants to show how to free oneself of unhealthful thoughts. His chapter on dream interpretation is most rewarding. He points out what they tell you about yourself and furthermore what action one must take. Throughout the pages he preaches that a person can learn what he lacks and that he has in his own hands the power to change his personality.

It is professor Woodger who states that "in the field of medical psychology there is one and only one criterion of success, namely the restoration of the patient to health. If a method or hypothesis helps us to do this then it has nothing to fear." . . . . But how do we know that success has been achieved, that the patients have been healed. The annals of medicine are replete with claims of successful cures and subsequent disillusionment. If the practice of psychoanalysis itself has no objective body of experience to prove success how much less can one expect from a method of self analysis in which evidence of its success is practically impossible of attainment. It is not even evident that the technique offered in this book is best performed by an individual on himself or by two or more together in consort. One thing, however, is certain, if a person will sit down and familiarize himself with the information in this book he will have received an invaluable education in dynamic psychiatry.

YOUR HEART; A Handbook for Laymen, by H. M. Marvin, M.D. Second volume in the new "Laymen's Handbook Series" on diseases. Doubleday, Garden City, New York, 1960, pp. 335, $4.50.

Reviewed by ARTHUR J. GEIGER

The author, widely known as a distinguished cardiologist, teacher, and writer, has successfully combined these three personal qualifications to produce a most readable, instructive and authoritative book. Although the subtitle, "A Handbook for Laymen," indicates the primary orientation of the presentation, at least eight of the twenty-six chapters make highly instructive reading for doctors. Each of these selected chapters could well have been published as informative reviews in medical journals such as this one; their content includes broad and well balanced discussions of the coronary disease problem, with critical evaluations of the controversial aspects of diet, stress and strain, exercise and smoking; the surgical treatment of heart disease; a superb chapter on obesity that every doctor should read; and a thoughtful and frank discussion of doctor-patient relationships, based on the author's long experience in practice and reflecting the practical philosophy of a compassionate physician.

The intelligent layman will find the book both interesting and readily comprehensible, for the writer has the enviable gift of explaining technical matters lucidly; medical terminology is used freely but is always defined or explained in non-technical terms, and a glossary at the end of the book helps to recall forgotten terms. Although the discussions are honest and frank, the emphasis is on the positive aspects of the cardiac disorders, and the tone throughout is justifiably optimistic and encouraging. Dogma in respect to controversial and unsettled topics is avoided by presenting clinical summaries of selected publications and reports of opposing or neutral schools of thought, and often by the author's statement of his personal current or tentative opinion or self-acknowledged bias. A short chapter on *Common Misconceptions* is merely a supplement to much similar material that appears throughout most of the chapters, and both should help the lay reader immeasurably in distinguishing between facts, fancies and fallacies.

Perhaps the chief value of the book lies in the attempts to answer the hundreds of questions that arise in patients' minds, which the busy doctor is often unable to answer patiently, understandingly and reassuringly. In this sense the handbook for laymen should be a convenient and welcome helpmate to doctors.

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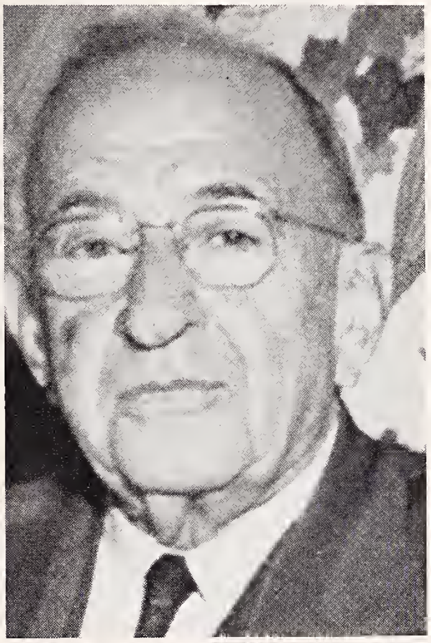
Obituary

J. Howard Staub, M.D.
1875 - 1960



J. Howard Staub, Stamford's most beloved physician, died after a short illness in the Stamford Hospital, January 10, 1960. He was in his 85th year. To us who knew him and loved him, "J. Howard" was quite a "guy."

Dr. Staub was born in New Milford, Connecticut on September 24, 1875. His medical career began after his graduation in 1899 from the Long Island Medical College and Hospital. Following graduation he had intern training in Mount Sinai Hospital, The Lying-in Hospital and the Willard Parker Contagious Hospital.

After having married Annie Graver of Jackson, Michigan in 1902, "J. Howard," with his bride, began in 1903, to practice in Stamford using a horse and buggy to make his calls. Ambitious? Yes! So, in 1904 he bought his first automobile. He teamed with his wife to achieve one of the most remarkable medical careers of any Connecticut physician.

A general practitioner always, however he became one of our most skilled general surgeons, whose medical and surgical judgement was beyond compare. His positions of leadership speak for themselves. In 1937 the Board of Directors of the Stamford Hospital appointed him chief of staff, director of the surgical service and chairman of the medical board. He was also elected a member of the Board of Directors of the Stamford Hospital. He served in all these capacities until he retired in 1952. However, he continued for two years as pital. In 1958 he was elected a member of the an incorporator and director of the Stamford Hos- senior council to the Board of Directors of the Stamford Hospital. He was past president of the Stamford Medical Society, president of the Fairfield County Medical Society in 1938, vice-president of the Connecticut State Medical Society and a Fellow of the American College of Surgeons.

In 1924 Dr. Staub was made a director of The Fidelity Title & Trust Co. and in 1940 he was elected vice president and a member of the Executive Committee of the bank. Later he was elected chairman of the Board of Directors and served for many years in this capacity. He was sought by both parties to serve as mayor of the city of Stamford but declined to be a candidate. However, he did serve for a number of years as a member of the Board of Finance. His counsel was sought in many community activities.

In addition to his professional, business and civic activities he was an avid sportsman. He was a charter member of the Woodway Country Club and played golf for more than 50 years with a score often in the 70's. When it came to skeet shooting he was one of the best. Duck pin bowling and fishing were also close to his sportsman's heart and, as in other things, he did them well.

Those of us who were closely associated with him learned to appreciate his superlative personality and integrity. He was a balance wheel and served as advisor and counselor to two generations of medical men. Truly, he lived a full and satisfying life.

Yes! "J. Howard" was quite a "guy."

Stuart H. Bowman, M.D.
Oliver L. Stringfield, M.D.

In Memoriam

CALLENDER, E. FREDERICK—Chester: Yale University School of Medicine, 1912; internship, Hospital of St. Raphael, New Haven, and Waterbury Hospital; staff of Waterbury Hospital, 1914 to 1928, while in the private practice of medicine and surgery in Waterbury; staff of Middlesex Memorial Hospital, Middletown since 1928; courtesy staff Hartford Hospital since 1930; active in civic affairs, and for many years health officer, medical examiner and school physician for town of Chester; outstanding semi-professional basketball player in early adult life; active in Masonic organizations; died February 3 at the Hartford Hospital from metastatic carcinoma after a long illness, aged 70.

GANDY, RAYMOND R.—South Carolina; University of Pennsylvania Medical School, 1899; retired from practice in Stamford in 1956; served as director of the Department of Obstetrics and Gynecology, Stamford Hospital, since 1941; was a past president of the Stamford Medical Society; came to Stamford in 1911 following two years of postgraduate study in Europe; he engaged in general medical practice following graduation from medical school, until 1909, and was a native of Philadelphia; died at his home in Myrtle Beach, South Carolina, after a brief illness, aged 85.

CRANKSHAW, CHARLES W.—Hartford; University of Pennsylvania Medical School, D.D.S. degree in 1892 and M.D. in 1894; medical advisor in disability service and tuberculosis at the Prudential Life Insurance Company of America for 35 years; after retirement in 1937, Dr. Crankshaw moved to Hartford; following graduation from medical school, he pursued post-graduate studies at the Royal Infirmary, Edinburgh, Scotland, several New York hospitals, the New York Eye and Ear Infirmary, and the Postgraduate Medical School; member of numerous national professional associations and author of many booklets on health, safety, and tuberculsis; died February 5 at his home, aged 90.

LAWTON, RICHARD J.—Terryville; Maryland Medical College, 1908; practiced dermatology in Waterbury and Terryville, where he resided for 50 years; a member of the New York Academy of Medicine and county, state and national medical associations; he was an active member of several fraternal organizations; served with the Medical Corps in World War I; studied dermatology at the New York Skin and Cancer Hospital and Bellevue Medical College of New York; died at Bristol Hospital February 5, following a long illness, at the age of 74 years.

Norwalk Hospital Medical Staff Pledges $250,000 For Expansion

The Norwalk Hospital medical staff has responded to the recent million dollar challenge gift from Charles A. Dana of Wilton toward making possible a $3,500,000 expansion program.

The announcement by Hospital President Andre Blumenthal that the medical staff has pledged to give $250,000 as a group by December 31, 1962, noted the staff's action "as another example of the fine manner in which the doctors have accepted the responsibility for the continued progress of the Norwalk Hospital as a leading center of medicine."

Pine Pitch Chewing Gum Linked To Sarcoidosis

The chewing of pine pitch was suggested as a possible cause of sarcoidosis, a chronic disease which affects the skin, eyes, lungs and bones.

Dr. Robert B. Baer of San Francisco reported in a recent issue of the American Medical Association Archives of Internal Medicine that he found "a good correlation between chewing pine pitch and the development of sarcoidosis about 15 years later" in four members of the same family.

Dr. Baer, who is associated with the department of medicine, Stanford University School of Medicine, said the family was born and raised in southeastern Oklahoma or northeastern Texas and always was surrounded by pine trees.

". . . in childhood they all chewed pine 'resin' for chewing gum," he said. "This was a mixture of pine pitch, 'stretcherberries' (a form of huckleberry that gave a bubblegun consistency to the mixture) and, in the springtime, pine 'buzz'."

The pine buzz, he said, undoubtedly was pine pollen.

Dr. Baer pointed out that his investigation showed "not all people who chew pine pitch develop sarcoidosis, and not all patients with sarcoid have chewed pine pitch or have been in close contact with pine forests.

Conceivably, he said, pine pitch must be chewed in the springtime when it is mixed with pollen in order to produce the disease.

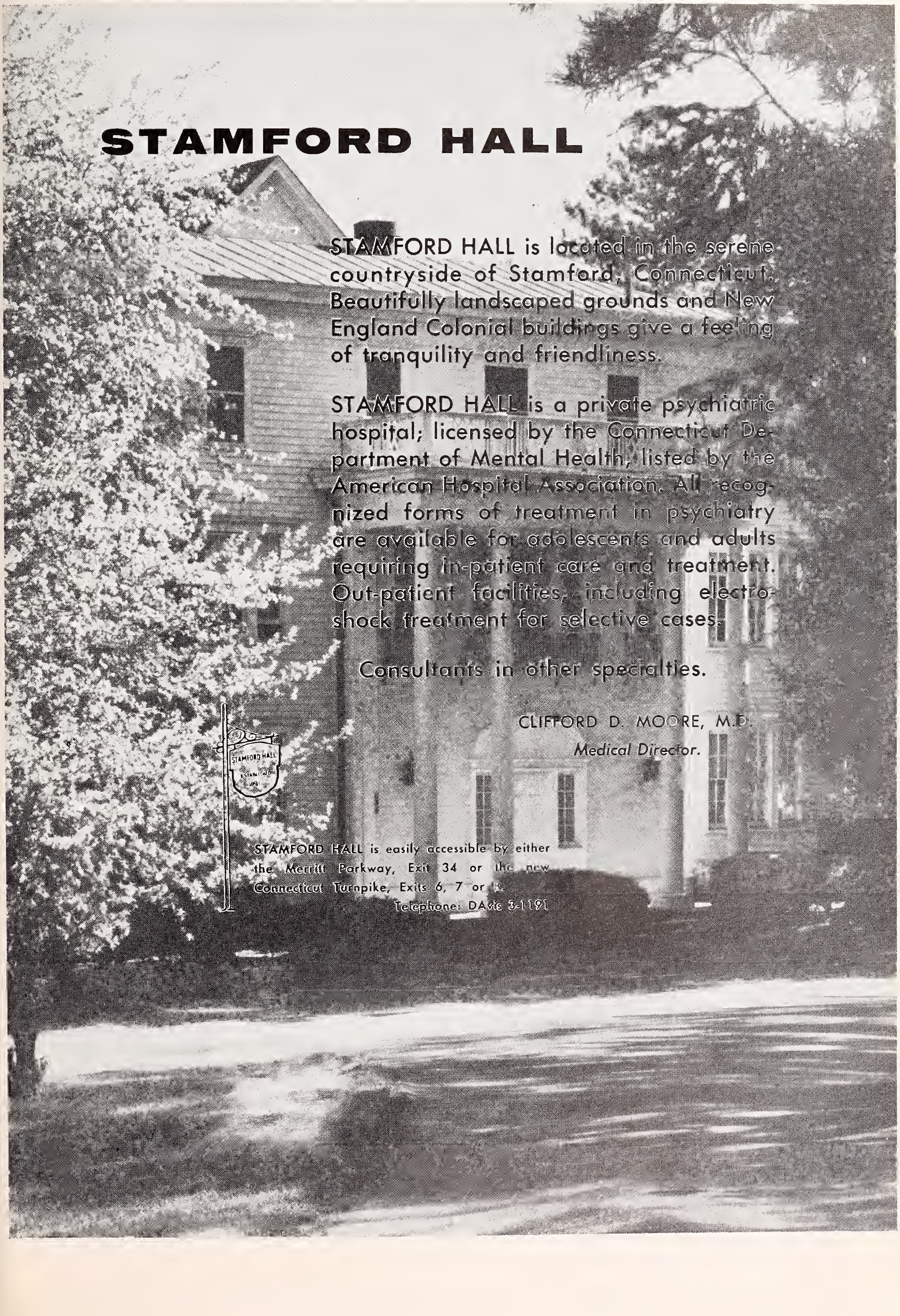
Many medical authors have proposed that sarcoidosis is a hypersensitivity reaction in that tissues react to agents usually innocuous, he said.

Therefore, he said, difference in the amount of pine pitch chewed, the type of pine tree from which it came, and a person's individual reaction to it may help explain the lack of complete correlation.

The specific cause of the disease is unknown.

Dr. Baer said generalized sarcoidosis is becoming recognized as a common disease.

The disease causes small nodules in many parts of the body including the skin, lymph nodes, eyes, salivary glands, lungs, and bones, especially of the hands and feet. There is a considerable resemblance between sarcoidosis and the effects of known bacterial infections such as tuberculosis and leprosy although no relationship to any of them has been demonstrated.



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Outlook Markedly Improved For Stroke Patients

An estimated two million persons who have suffered strokes are alive today, and the outlook for stroke patients has "markedly improved" in the past five years, a New York heart specialist reported.

In an interview reported in a recent issue of *Today's Health,* published by the American Medical Association, Dr. Irving S. Wright, Cornell University Medical College, New York, said that even in 1954, "the approach of the medical profession was one of hopelessness. It wast just too bad but the stroke patient was stuck with what he had."

Now, he added, "a great catalytic movement is taking place." Hundreds of resarchers are working in the field of strokes, and both knowledge and treatment of stroke conditions have advanced a great deal.

Dr. Wright said that figures from a ten year study by Columbia and Cornell Universities and Bellevue Hospital on treatment of the acute phase of first strokes, "suggests that for survival alone there's an improvement of about one-third by using anticoagulants in treatment of thrombosis."

The figures, he added, are almost the same as those from a study of the treatment of coronary thrombosis with anticoagulants made under the auspices of the American Heart Association.

Anticoagulants activate blood enzymes which tend to disintegrate blood clots. For long-term treatment, they can be taken orally, Dr. Wright said.

Tracing the devlopment of strokes, Dr. Wright pointed out that they are caused when a blood vessel supplying the brain becomes clogged, usually with a blood clot. Innumerable combinations of brain and body damage can occur. Depending upon which area of the brain is affected, a person may have a stroke without knowing it. When blood from a clot leaks into the brain area, a hemmorrhage occurs.

Men, especially those with hardening of the arteries, seem to develop stroke symptoms earlier than women, he added. The sex difference tends to even up to some degree after menopause because women lose protection from their hormones.

"Anticoagulants will be much more widely used, as with heart disease," predicted Dr. Wright. "I think it can be said that the risk of a second stroke can be reduced markedly by keeping the patient on anticoagulants, provided that the original stroke was due either to an embolism [clot carried by the blood current] coming from the heart or to a clot forming within the brain."

Anticoagulants should never be given to a patient with a hemorrhagic or "bleeding" stroke, he cautioned.

Dr. Wright made these other observations about strokes:

Rehabilitation: "Workers are most enthusiastic about their ability to get the patient to utilize muscles and nerves which are intact. Further studies are underway. But the patient must still know he is wanted in order to have the will to get well."

Stress: "Some physicians have taken the position that heart attacks, like strokes, are largely produced by . . . stress in our civilization. I doubt this. The evidence for this is poor and there are many other factors, such as hormones or diet, for which the evidence is far better."

Diet: "I don't think we're yet in a position to advise a drastic change in our national diet." However, obese persons or those with high blood cholesterol should keep their fat and cholesterol intake down.

Exercise: "Physical exercise within reason is good for people. The evidence suggests that this does them no harm and may even help to protect them against heart attacks and strokes. After such attacks, of course, activity has to be well controlled.

Hypnosis Used In Facial Skin Planing

Hypnosis can alleviate much of the unpleasantness of facial skin planing, according to Dr. James W. Burks, New Orleans.

Dr. Burks reported on the use of hypnosis as an anesthetic during the operation known as dermabrasion in a recent issue of Archives of Dermatology, published by the American Medical Association.

"In general, the state of hypnosis sought and attained was one of a mild to medium hypnotic stage," he said.

"Success here was recognized by a relative lack of visible signs of apprehension . . . and postoperative shock reactions, such as nausea, vomiting, and syncope (fainting)."

Patients who had undergone the operation before thought the discomforts were lessened by hypnosis, he said. All said the operation seemed to take 15 to 25 minutes less than it actually did, he added.

The operation consists of freezing the skin and removing the outer layer in order to improve the appearance, for example, removing scars caused by acne.

Dr. Burks is associated with the division of dermatology, department of medicine, Tulane University School of Medicine and Charity Hospital of Louisiana, New Orleans.

JOHN NORMAN GALLIVAN, M.D.

Born: Meriden, Connecticut 1912

A.B. 1932, M.D. magna cum laude 1935, both from Tufts University

Internship: St. Francis Hospital, Hartford 1935-36

Practice: General practice 1936-51 with increasing emphasis on occupational medicine. Beginning 1951, practice limited to occupational medicine, aviation medicine and public health

Specialty Certification: Occupational Medicine, American Board of Preventive Medicine 1955

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Lecturer in Public Health (Occupational Medicine), Yale University

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Director of Health, Town of East Hartford

Hartford County Med. Assn., Conn. State Med. Soc., and A.M.A. Member since 1936

East Hartford Med. Soc.: President 1951-53

Hartford County Med. Assn.: Director 1948-58, Alt. Councilor 1952-53, Councilor 1953-58, Vice-President 1956-57, President 1957-58

Conn. State Med. Soc.: House of Delegates 1947-, Chm. Committee on Industrial Health 1949-51, Council Member 1952-, Chm. of Council 1957-58

A.M.A.: House of Delegates 1955-, Council on Industrial Health 1955-

Fellow: American College of Preventive Medicine, American Academy of Occupational Medicine

Other Professional Societies: Hartford Medical Society, New England Industrial Medical Association, Connecticut Public Health Association, Industrial Medical Association, American Public Health Association, U. S. Committee of World Medical Association

U. S. Presidential citations for exceptional contributions in advancing the employment of the physically handicapped 1953, 1960

THE PRESIDENT'S PAGE

On this occasion, my first opportunity to avail myself of the privilege traditionally accorded the President of the Society to set forth a message on this page, I offer to each member of the Society my sincere thanks for permitting me to become the 123rd President of this venerable organization. It is my humble hope that I can discharge the duties of this office effectively.

It is fitting that I forthrightly declare my thoughts on important matters of interest to the Society. As I see it, the primary function of the presidency is to serve as a medium of expression.

The current pace of change in professional and technical knowledge is the greatest in all history; and so also is the rate of increase in the interest of all segments of the public in the extent and distribution of health services. To meet the challenge of constantly and rapidly changing technical and social patterns, it is essential to have an effective organization based upon the wise distribution of duties among many.

Society action is group action. As we keep our attention unalterably centered on our avowed pledge to "become increasingly useful to the public in the prevention and care of disease and in prolonging and adding comfort to life" (quotation from Article II, Section 1, Bylaws of the Connecticut State Medical Society) group action to meet the changing needs—not only of the profession but of the public in general—understandingly must conflict at times with individual or subgroup predilictions for stability or entrenchment.

On the other hand, group action, to physicians, does not and should not mean mass conformance. The strength of our profession lies in the infinite variety of our skills and the intense individuality of our thinking both as to ideas and as to scale of values. As a California Medical Association Newsletter (September 1959) put it:

> "Group action by medicine can have unique force. Based upon the welfare of the human individual, and *not* upon professional self-interest, it can represent the group interest of all in freedom and individuality in the personal matter of medical care. It can merit and receive powerful support. Such group action can *preserve the individuality which we all prize so highly*."

The apparent paradox of group action in the interest of individuality undoubtedly may be confusing to some. Nevertheless, it is a fact that physicians, the most celebrated proponents of individuality in our time, have found the need to build, not weaker, but stronger organized groups. Traditionally, medicine has been one of the most rigidly disciplined of man's endeavors; and it has been and is largely self-disciplined. From this self-discipline has come the public trust which may be called the professional status of the physician.

From nearly a quarter-century's professional experience in which for the most part I have practiced simultaneously on fee-for-service and salaried bases, I can attest that, whatever the type of his remuneration may be, the professional status of a physician is an essential part of his effectiveness.

John N. Gallivan, M.D.

• A TECHNIC • FOR • TRANSVESICAL PROSTATECTOMY

B. MARVIN HARVARD, M.D.*
ROBERT R. WHITE, M.D.†
New Haven

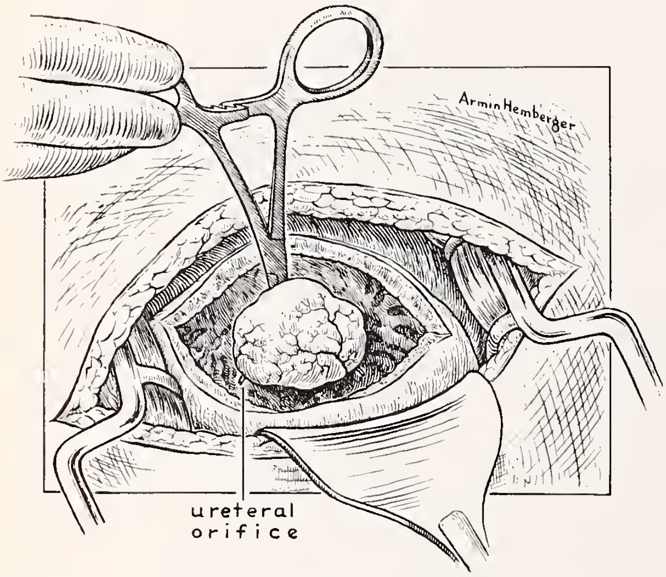

FIGURE A
Low transverse bladder incision reveals large intravesical middle lobe of prostate. Forceps identify the bladder outlet.

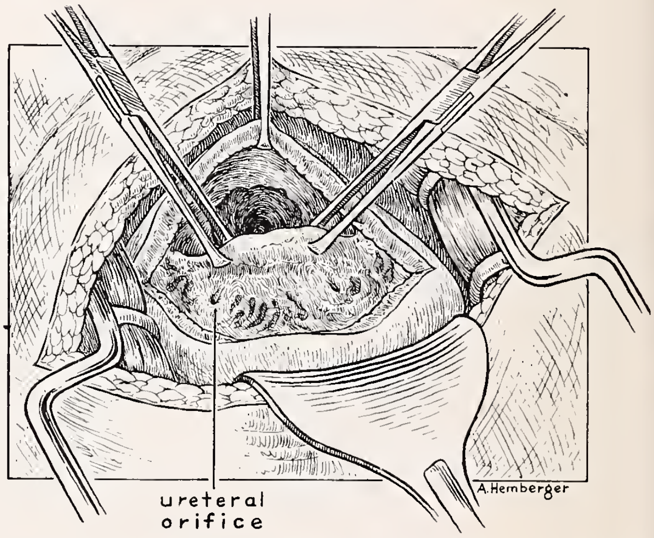

FIGURE B
Low transverse bladder incision showing ready accessibility of the bladder neck following adenectomy.

THE technic for transvesical prostatectomy through a low transverse bladder incision presented here was originally devised to provide a simple method which gained mechanical advantage over the classic suprapubic approach in control of hemorrhage, revision of the bladder neck, intravesical procedures, as well as a sound method for primary closure of the bladder. In the past ten years it has proved to be simple, useful, and adaptable.

Since its inception and first publication,[1] the technic has been modified slightly, but the basic principle of low transverse incision of the bladder remains the important factor. By making a low transverse bladder incision one immediately exposes the vesical neck, the intravesical portion of the prostate, the trigone, and bladder cavity making them easily accessible and completely visible.

The recumbent patient is placed in a modified Trendelenberg position with lower extremities slightly separated. The table is then flexed at the patient's knees to provide a level working surface and to assist in maintaining the patient's position on the table. The position is important, particularly in the obese patient, because it greatly reduces the amount of retraction required to keep the abdominal contents away from the field of operation.

If a urethal catheter is already in place, the bladder is irrigated with sterile water and a few ounces of fluid left in the bladder and the catheter removed. If no catheter is in place the genitalia are cleansed and a few ounces of sterile irrigating solution injected transurethrally with a bulb syringe. The field of operation is then prepared by cleansing the genitalia, perineum, and lower abdomen by an accepted standard technic. A sterile towel is placed transversely over the upper thighs behind the scrotum contiguous to the perineum and clipped to the median perineal raphe. The field is draped in a triangular fashion using three towels clipped in place; the apex of the triangle being behind the scrotum and the base across the abdomen about midway between the umbilicus and the symphysis pubis. Thus, the genitalia and suprapubic area are simultaneously exposed and the area of the rectum effectively excluded. Over this a standard laparotomy drape is placed. Following bilateral simple vasoligation, the genitalia are excluded from the operative field with a sterile towel.

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A slightly curvilinear transverse suprapubic incision approximately 4 cm. above the symphysis pubis and about 12 cm. long is made through skin and superficial fascia to the rectus sheath and external oblique fascia. The rectus sheath and contiguous abdominal fascia are then incised transversely for the desired length. The fascial attachments of the linea alba to the anterior rectus sheath are incised superiorly and inferiorly sufficiently to provide free retraction of the bellies of the rectus muscle. The rectus muscle is separated in its midline and the bellies retracted laterally with a self-retaining abdominal retractor. The prevesical fat is removed and the peritoneum is reflected upward, packed, and held in place with the middle blade of the retractor. Thus, the anterior surface of the bladder and the retropubic space are exposed and freely accessible. The vesical neck and anterior surface of the prostate are identified by palpation. Large anterior surface veins traversing the bladder just above the bladder neck are ligated with fine plain catgut transfixion sutures above and below the anticipated line of incision. A transverse stab wound is made through the anterior wall of the bladder 1-2 cm. above the bladder neck and the edges of the wound grasped with Allis forceps. The fluid in the bladder is aspirated. The stab wound is extended transversely in each lateral direction for a length sufficient to provide adequate vision of the prostate, trigone, and bladder. (Figure A.) Bleeding points in the bladder wall are grasped with Allis forceps and transfixed with figure-of-eight sutures of fine atraumatic catgut.

At this point in the operation intravesical procedures such as lithotomy and diverticulectomy may be performed. They are best done before enucleation of the prostate unless, because of the unusual size of the gland, mechanical advantage can be gained by the enucleation.

The surgeon's left arm and hand are then clothed with a sterile removable sleeve and double glove. A small drape sheet is clipped to the front of his gown. With two fingers of the well-lubricated double-gloved hand in the rectum a classic digital enucleation is performed with the right index finger from above. Care must be taken to establish a proper cleavage plane between the adenoma and the surgical capsule of the prostate to ensure removal of all adenomatous tissue as well as to reduce tearing of the capsule with its attendant bleeding. After enucleation the sleeve, glove, and drape sheet are removed.

Immediately following enucleation the prostatic fossa is wiped clean of clots and packed fully with gauze sponges. The bladder neck is thus exposed cleanly. Redundant tissue at the bladder neck is trimmed away. Bleeding points are transfixed individually with figure-of eight sutures of 000 chromic catgut. A wedge of tissue may be removed from the posterior vesical lip and any bleeding points transfixed (Figure B.) The pack in the prostatic fossa is now removed and the cavity inspected for active bleeding. Usually there is little more than moderate oozing. Occasionally, direct transfixion may be required. This may be accomplished by spreading the bladder neck gently and ligating the bleeding point with a transfixion suture. In rare instances, for example in very large fossae, it may become necessary to incise the bladder neck and anterior prostatic capsule longitudinally to expose the deeply seated bleeding point. Such a longitudinal incision in the prostatic capsule and bladder neck is closed with a continuous suture of chromic catgut.

After having accomplished satisfactory hemostasis the surgeon must decide whether to elect primary closure of the bladder with urethral catheter drainage or whether to use suprapubic drainage in addition. Two important factors must guide him. The first is whether or not he has been able to secure good hemostasis and a relatively dry fossa. In the majority of patients sufficient control of bleeding can be obtained. If good control has not been obtained or, if the surgeon is uncertain about it, then primary closure is contraindicated. The second factor is how closely the patient can be watched by trained assistants. When the bladder is closed primarily by this method simple gravity drainage is the method of choice. Because there is oozing of blood into the bladder in the early post-operative phase, the catheter may become obstructed with subsequent distention of the bladder and the prostatic fossa. This in turn may cause reactivation of bleeding with all its attendant complications. Therefore, if the patient cannot be closely observed and the catheter irrigated appropriately by hand by skilled assistants, one is best advised not to attempt primary closure.

If the bladder is to be closed primarily a simple urethral meatotomy is made by incising the posterior lip of the urethral meatus. A 30 cc. two-way bag catheter of size 24-26F, is inserted transurethrally into the bladder, inflated sufficiently to prevent its being drawn into the prostatic fossa, and seated against the bladder neck. The bladder mucosa is closed with a continuous suture of 000 chromic catgut. Care must be taken that the suture begins and ends beyond the limits of the mucosal incision. To prevent tearing of the mucosa by the suture a small amount of the muscularis is included along with the mucosa. The muscularis is closed similarly with a running suture of 00 chromic catgut. The adventitia is closed over the suture line with a few interrupted sutures of the same material. The prevesical space is drained with a medium-sized rubber tissue drain.

If suprapubic drainage is employed as the method of choice, the size of the urethral catheter is reduced to a 20-22F. It is treated as described above. To place the suprapubic tube, a Kelley clamp is punched through the dome of the bladder from within outward and a large two-wing suprapubic catheter drawn into the bladder. If the catheter is stretched during its introduction it will exert a tampon effect when released and no suturing will be required. The bladder wound is then closed as described and the prevesical space drained.

The abdominal wound is closed in layers using interrupted chromic 00 sutures to approximate the bellies of the rectus muscle. Interrupted chromic 0 sutures close the abdominal fascia and the rectus sheath. The prevesical drain and the suprapubic tube, if one has been used, are brought out through the fascial wound in the midline. The superficial fascia and fat are approximated with interrupted sutures of fine plain catgut and the skin is closed with interrupted sutures of black silk. If a suprapubic tube has been used it is fixed to the skin surface with a heavy braided silk suture.

The drain is gradually removed daily. If primary closure has been employed, the urethral catheter is removed on the fifth to seventh day. If a suprapubic tube has been used it may be removed on the third to fifth day leaving the urethral catheter in place. When the suprapubic sinus has been closed—usually one to three days—the urethral catheter is removed.

Comment

It is believed that the technic, in addition to being simple to perform and requiring no special instruments, has these advantages:

1. Complete visualization of the bladder neck, the intraprostatic portion of the prostate, the trigone, and the bladder cavity.
2. Direct control of bleeding by transfixion sutures.
3. Easy removal of tissue remaining at the bladder neck after enucleation of the prostate.
4. Primary closure with shortened postoperative drainage period.
5. The option for secondary drainage at the time of operation if primary closure is contraindicated.
6. Ready accessibility of the bladder cavity for intravesical procedures.

The complications of primary closure by this method have been few. Serious secondary hemorrhage has been infrequent and controlled by irrigation and brief periods of light traction on the bag catheter.

All patients with primary closure of the bladder have not maintained watertight closures. Less than 10 per cent have developed suprapubic fistulae. The great majority of these have lasted from one to four days and responsed promptly to simple urethral catheter drainage. The longest recorded period has been eleven days following first removal of the urethral catheter. None of the fistulae have required secondary surgical closure.

While the use of fine chromicized catgut in the bladder neck and bladder mucosa has been criticized by some surgeons, it has not proved to be a problem. There have been no patients in whom delayed healing of the wound or prolonged urinary infection could be traced to the suture material.

Bladder spasm remains an unpleasant attendant to the procedure, but seems to occur with no greater frequency than in any procedure in and around the bladder neck.

Summary

A technic for transvesical prostatectomy, with or without primary closure, is described. With the patient in Trendelenberg position to aid in retraction, transverse suprapubic incision is made and followed by a transverse bladder incision just above the vesical neck. The important operative sites then become clearly visible and easily accessible. The approach affords improved mechanical advantage in control of hemorrhage and revision of the bladder neck over the classic incision. Intravesical procedures may be performed through the same opening.

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• THE INSTRUMENTATION OF FETAL HEART RATE AND FETAL ELECTROCARDIOGRAPHY

I. A FETAL HEART MONITOR*

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For more than 50 years significant variations in fetal heart rate from the clinical "normal" range of 120 to 160 beats per minute have been considered evidence of abnormal fetal environment. While there is no general agreement as to the significance of fetal bradycardia, tachycardia alone or together, one widely accepted definition of fetal distress is based on a fetal heart rate which does not return to normal 30 seconds after the end of a uterine contraction or which remains below 100 beats per minute throughout the interval between contractions.[1]

The limitations imposed by momentary periodic auscultatory sampling of the fetal heart rate, the inability to hear the fetal heart sounds at the acme of a uterine contraction, and the difficulty of counting rapid rates are important sources of error and may compromise the data significantly.

A continuous accurate record of the fetal heart rate throughout labor and delivery with provision for permanent recording of both the fetal heart rate and uterine contractions would provide accurate data for interpretation. With such records it will be possible to define the limits of the "normal" fetal heart rate and hence, the abnormal.

With the development of the vacuum tube amplifier and better quality microphones, a number of attempts have been made to strap various types of microphones to the abdominal wall of the pregnant patient and thereby obtain a continuous record of the fetal heart rate.[2–15] While some success has been achieved by filtering out to a degree unwanted noise, the technical problems associated with many hours of recording in the untranquil environment of the average labor and delivery room are formidable.

The problems inherent in discriminating the changing mechanical vibration of the fetal heart beat from the unpredictable and random mechanical vibrations due to noises made by the patient or her attendants during labor prompted studies of the fetal electrocardiogram for this purpose.[16–25] While detection of the fetal electrocardiogram eliminated the sizeable problem of mechanical noise, it was handicapped by the low voltage of the fetal ECG, the presence of the maternal ECG, and the electrical potentials generated by the abdominal muscles at the acme of a contraction.

This report describes a fetal heart rate and uterine contraction monitoring and recording system which has been built up over the past four years and is now developed sufficiently for research studies throughout labor and delivery. The experience gained from the study of over 250 labors has been applied to the design of a convenient, relatively simple instrument which provides continuous accurate records. The present apparatus was constructed by an electronic instrument manufacturer*

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† Markle Scholar in Medical Science.

*Epsco Medical, Cambridge, Mass.

and possesses better mechanical and electrical stability than the research models constructed in our own laboratory. The circuitry and ideas governing the choice of a specific method of data handling, electrode construction, electrode paste, etc. will be discussed in subsequent reports.

Materials and Methods

Abdominal Electrodes. Special rubber suction cups which house a 1.5 cm. silver disc electrode (Figure 1A) are used for fetal ECG recording from the abdominal wall of the patient. The cups are light and comfortable, have a low center of gravity, and when used with non-drying electrode creams will stay attached to the patient for hours at a time and provide recordings relatively free from electrical skin "noise."

For patient study prior to cesarean section where it is desirable to monitor continuously the fetal heart rate, short 25 gauge needles are used. They are completely insulated except for the tips. In use they are fixed to the abdominal wall with adhesive tape. These recordings have more electrical "noise" than suction cups but have the advantage of not being dislodged by the surgeon.

Intra-uterine Electrodes. For special studies at the time of cesarean section a doubled-over 20 gauge silver wire encased in tetrafluoroethylene tubing has been used (Figure 1B). The electrode is threaded through a plastic needle passed through the uterine wall to contact the fetus. The other electrode of the bipolar system is attached to the mother's abdominal wall.

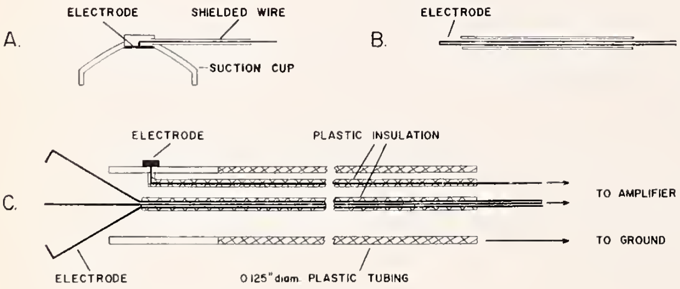


FIGURE 1

A. For abdominal fetal ECG recordings two suction cup electrodes are used on the abdominal wall and a ground electrode on the patient's leg.

B. Silver wire electrode partially covered with tetrafluoroethylene tubing.

C. The wires of the vaginal electrode penetrate the epidermis, the other bipolar electrode makes electrical contact with the fetus via the vaginal and cervical secretions.

Vaginal Electrodes. In labor, when the cervix is 1-2 cm. dilated, a small electrode (Figure 1C) can be applied to the fetal scalp or buttocks. The other electrode of the bipolar system makes electrical contact with the adjacent areas of the fetus via the vaginal and cervical secretions and thereby decreases electrical "noise" which may be generated if it were connected to the mother's leg or perineum. The electrode system also maintains a relatively constant spatial relationship to the fetal heart. This is important if the configuration of the fetal ECG is being studied. These electrodes permit continuous recording of the fetal ECG throughout labor and delivery, without imposing any artificial restrictions on the patient or her attendants. The patient may move or talk at will and the necessary clinical observations made from time to time. In an average labor and delivery, an accurate record is obtained more than 95 per cent of the time. The technique has been used in over 80 labors. The original research electrodes were inconvenient to use and occasionally difficult to apply.[24] These problems have been overcome by improving the mechanical and electrical design.

The electrode is attached to the fetus at the time of sterile vaginal examination by passing it upwards between the examining fingers. The central electrodes are lightly spring loaded and are released by a small plunger. The vagina is liberally covered with hexachlorophene in order to decrease the possibility of ascending infection. In this limited study there has been no increase in puerperal morbidity. It will be necessary, however, to evaluate this possibility on a large scale.

The small gauge wires used in the vaginal electrode just penetrate the epidermis. Most of the time it is difficult to locate the point of attachment to the fetus. To date, no damage to the fetal epidermis or vaginal tissues has been noted.

The present commercial developmental models are based on the use of plastic materials. In final form they will be coated with high viscosity antiseptics and will be disposable.

Apart from use in labor, other types of vaginal electrodes have been used infrequently. They have been made of heavy gauge silver wire which for the greater part of their length have been insulated.[26]

Electrode Paste. The usual type of electrode jelly used for adult electrocardiography is not suitable for long-term recording of the fetal ECG during labor. The jelly is not esthetically acceptable to the patient, not infrequently causes skin irritation, and in drying, encrusts on the electrodes causing electrical "noise." A special conducting cream has been developed for this purpose. It has satisfactory electrical characteristics and does not dry after hours of recording and is well accepted by the patient.

Signal Conditioning. In order to count only the fetal ECG, the maternal ECG must be attenuated or removed from the combined fetal and maternal

ECG recording when the tracing is made from the abdominal wall of the mother. The research unit permits the use of any or a combination of the following means of signal conditioning:

1. Band-pass filtering. If the maternal ECG is no more than twice the amplitude of the fetal ECG, a 30 cps. peaked amplifier will selectively attenuate the maternal ECG so that the filtered fetal ECG will be higher in amplitude. The fetal ECG is then ready for automatic counting.

2. Cancellation of the maternal ECG. The maternal ECG is cancelled out of the combined fetal and maternal ECG tracing.[16]

3. Blanking of the maternal ECG. The maternal ECG is removed from the combined fetal and maternal ECG tracing by using another maternal ECG source (e.g. precordium) as a trigger to electronically "gate out" the unwanted signal. It has the disadvantage of losing the fetal signal if it happens to be super-imposed on the maternal.

In practice, a method of signal conditioning is chosen which is best suited to a given situation.

Amplifiers. The high-gain differential amplifiers have an overall sensitivity of 10 microvolts per cm. of pen deflection. They have a high input impedance, high common mode rejection, and a low noise level. Variable high and low pass R-C filters and a 50 microvolt calibration signal are built in.

Display. Audio. A small audio amplifier produces a tone synchronous with the fetal ECG. The output level can be altered at will or be turned off completely.

Visual. A two-channel oscilloscope displays continuously the raw data (e.g. combined fetal and maternal ECG or fetal ECG alone) on one channel and the processed data (e.g. filtered fetal ECG) on the other channel.

The instantaneous fetal heart rate is displayed on a direct reading cardiotachometer. Adjacent to the meter face is a light which flashes synchronously with each fetal heart beat.

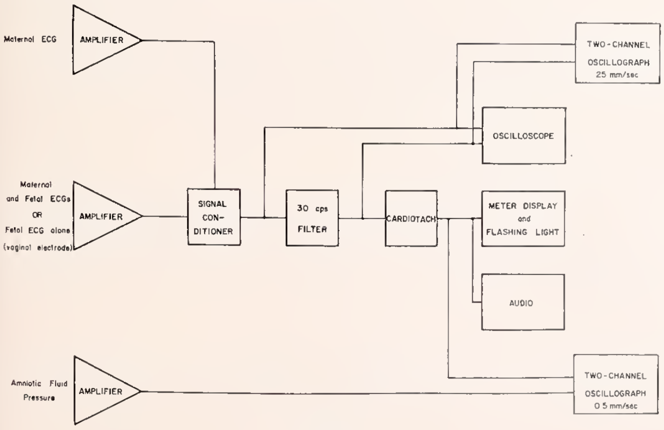
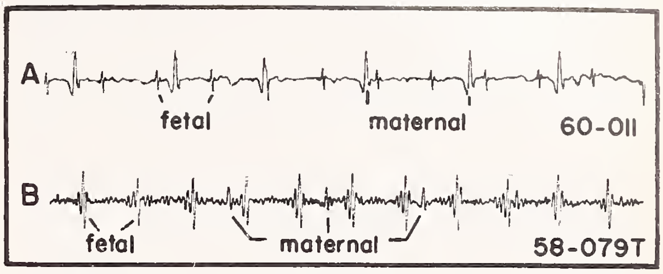

Maternal ECG
AMPLIFIER
Maternal and Fetal ECGs OR Fetal ECG alone (vaginal electrode)
AMPLIFIER
SIGNAL CON-DITIONER
30 cps FILTER
CARDIOTACH
TWO-CHANNEL OSCILLOGRAPH 25 mm/sec
OSCILLOSCOPE
METER DISPLAY and FLASHING LIGHT
AUDIO
Amniotic Fluid Pressure
AMPLIFIER
TWO-CHANNEL OSCILLOGRAPH 0.5 mm/sec

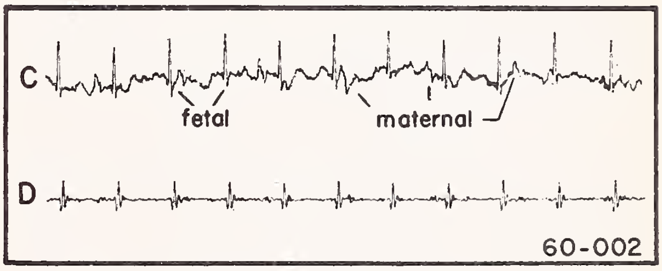
FIGURE 2
Block diagram of fetal heart rate monitor and recorder.

FIGURE 3



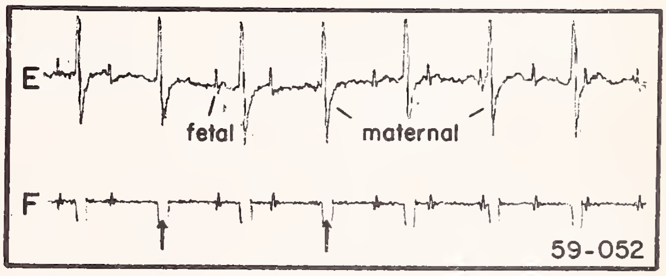
A. Maternal ECG and fetal ECG recorded from the abdominal wall with suction cup electrodes.

B. Maternal ECG and fetal ECG after passage through a 30 cps. peaked amplifier. Fetal signal is larger than the maternal.



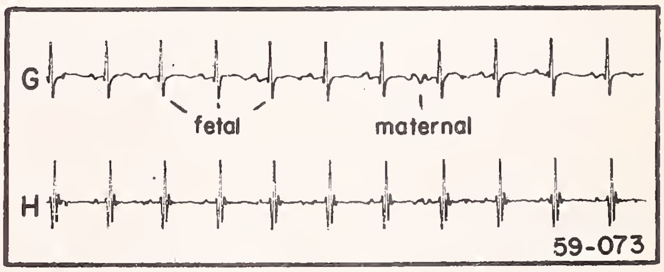
C. Attenuation of the maternal ECG by "cancelling." Fetal ECG is larger than the maternal ECG.

D. Same signal as Figure 3C after passage through a 30 cps. peaked amplifier.



E. Fetal and maternal ECG's are superimposed at the arrows. "Blanking" of this signal produces a counting error.

F. Same signal as Figure 3E filtered before "blanking." Note absence of maternal signal.



G. Fetal ECG recorded from vaginal electrode attached to the fetal scalp. Note the occasional attenuated maternal ECG.

H. Same signal as Figure 3G after filtering.

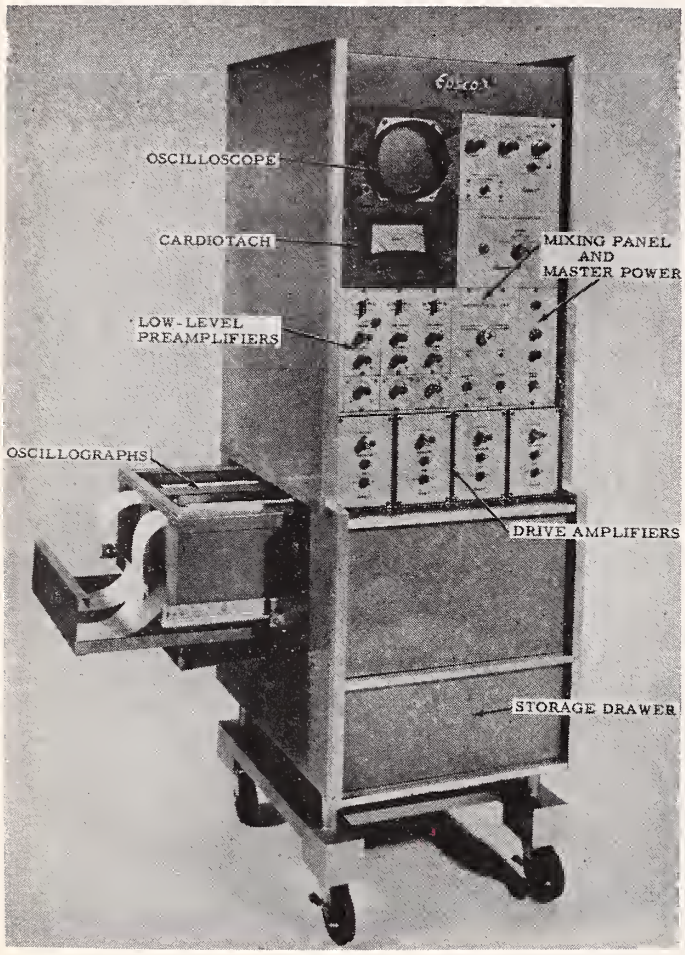


FIGURE 4

Labelled photograph of the research unit.

Recording. One two-channel oscillograph (25 mms/sec) makes a permanent record of the material displayed on the oscilloscope. Another two-channel oscillograph (0.5 mms/sec) records on one channel the output of the cardiotachometer to provide a permanent graph of the fetal heart rate. The other channel records the changes in intra-amniotic fluid pressure associated with uterine contractions.

Uterine Contractions. A chopper amplifier suitable for strain gauge pressure studies is used for recording uterine contractions.

The various components are conveniently assembled in a mobile console which provides storage space for the various leads, paper, and supplies. The oscillographs make rectilinear ink recordings on inexpensive numbered folded paper. Figure 2 is a block diagram and Figure 4 a labelled photograph of the unit.

Examples of Records

Signal Conditioning. Figures 3A-H are examples of the different methods of recovering the fetal ECG so that it may be counted without spurious counts due to the maternal ECG.

Figure 3A. The tracing shows both maternal ECG and fetal ECG as recorded with electrodes from the abdominal wall of the mother.

Figure 3B. Maternal ECG and fetal ECG after passage through a 30 cps. peaked amplifier so that the maternal signal has been selectively attenuated.

Figure 3C. The maternal ECG has been attenuated by "cancelling" so that it is now of lower amplitude than the fetal ECG.

Figure 3D. Same signal as Figure 3C after passage through a cps. peaked amplifier.

Figure 3E. Maternal ECG and fetal ECG. Note superimposition of maternal and fetal ECG at the arrows.

Figure 3F. Same signal as Figure 3E after passage through a 30 cps. peaked amplifier before blanking. Note absence of maternal signal and error in count (arrows) where maternal and fetal ECG's were superimposed.

Figure 3G. Fetal ECG recorded from vaginal electrode attached to the fetal scalp. Note the occasional maternal ECG.

Figure 3H. Same signal as Figure 3G after passage through a 30 cps. peaked amplifier.

Comment

The research unit (Epsco Medical, Cambridge, Mass.) for the study of fetal heart rate ante- and intra-partum is practical and useful for prolonged research studies. It is mobile and uses rectilinear ink recording on inexpensive folded paper. The latter is of utmost importance from the standpoint of paper cost, storage, and easy access to the tracings.

The unit in its present form is still too complex and expensive for widespread clinical use. With simplification and reduction in versatility it could become the basis for clinical units suitable for simultaneous remote monitoring of a number of labor and delivery rooms.

Summary

A research fetal heart rate and uterine contraction monitor and recorder have been described. The design and construction are based on the experience gained from the recording of over 250 labors.

Acknowledgment

The author is grateful to Epsco Medical, Cambridge, Massachusetts for developing the various electrodes, conducting cream, and constructing this apparatus.

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Advice is like snow; the softer it falls, the longer it dwells upon, and the deeper it sinks into the mind.—COLERIDGE

THE RADIOIODOPYRACET RENOGRAM WITH EMPHASIS ON RADIOLOGICAL TECHNIQUE AND CLINICAL APPLICATIONS

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TWELVE years ago the United States Atomic Energy Commission made radioactive isotopes available to clinical medicine and medical research. During the past seven years their use in this community hospital has resulted in many practical clinical benefits. They have improved medical diagnostic accuracy; lengthened the lives of many patients in comfort, and have provided a highly sensitive research tool with which it is unnecessary to use large amounts of radioactivity. It is true that the "superstitious fear" of radiation by the public as well as many physicians has done much to impede the full realization of the infinite benefits to be reaped from the clinical diagnostic and therapeutic application of radioactive isotopes.

In 1956, G. V. Taplin, et al[21] presented a new renal function test utilizing Iodine 131 tagged Diodrast and external "in vivo" gamma counting. Billion and Schlungbaum[1] had previously described the investigation of renal function with Iodine 131 tagged Perabrodil M but their work was all "in vitro" analysis of bladder urine. Our aim was to confirm and demonstrate the fundamental usefulness and clinical applicability of a dual external gamma ray scintillation counting and rectilinear recording technique which would permit the continuous measurement of multiple physiologic events: (1) renal vascularity, (2) renal tubular cell secretory capacity, and (3) upper collecting system urinary stasis occurring simultaneously in two kidneys in order to quickly and easily identify unilateral renal disease causing "renal hypertension."

It is well known that pyelonephritis or various vascular lesions causing renal ischemia may result in renal hypertension.[14, 16] The theory is that a proteolytic enzyme (renin) is produced by an ischemic kidney. This enzyme combines with a plasma globulin to produce an active pressor polypeptide (angiotonin) which causes hypertension. Since at this time there is no means of detecting this pressor polypeptide in hypertensive patients, the importance of an external gamma ray "in vivo" radiological counting technique for the detection of unilateral renal disease is therefore readily apparent. Intravenous pyelography may not indict a guilty kidney in the absence of morphologic changes.[9] Similarly in these patients the blood chemistries, urine and conventional renal function studies are usually normal. When radiologists report such a pyelogram as normal and pathologists report normal laboratory findings, they frequently imply a knowledge of bilaterally equal renal function. The attending physician is so reassured that he abandons Iodine 131 Diodrast radio-renography in a truly salvageable patient. Unilateral renal disease causing hypertension is a surgically curable disease.[15] The typically salvageable patient is under forty, suddenly hypertensive with severe headaches and retinal changes, has normal blood chemistry, urine, PSP using bladder urine (because the good kidney compensates) and a normal intravenous pyelogram.[17] Atrophic and non-functioning kidneys are often demonstrated by intravenous and retrograde pyelography, but, this does not necessarily mean that they are the cause of the hypertension.[8] These kidneys have frequently been removed without relieving the elevated blood pressure. Now we are seeing kidneys which are structurally and apparently functionally normal upon routine investigation being removed with cure of the patient's hypertension. Ten years ago Homer Smith[29] recorded 262 cases of hypertension with unilateral renal disease treated by nephrectomy, of which only 19% resulted in a cure.

Method

The evaluation of renal function is a dynamic comparison of one kidney with the other. Separate scintillation detectors, count rate meters and rectilinear recorders are positioned so that the kidneys are recorded simultaneously. The ratemeter uptake instruments are calibrated by the technician to respond equally to a standard gamma ray source before each test. The tracer is 0.4 uc/kg of radioactive Iodine 131 tagged Diodrast injected intravenously in approximately 1.0 cc volume. The tracer contains approximately 0.4 mgms of Diodrast in comparison with 10-20 grams used in x-ray studies of renal morphology. The radioactivity injected is negligible from the standpoint of radiation health physics, being less than one-hundredth the radiation exposure of a single chest x-ray.[4] Despite the work of Goluboff et al,[11] in more than seventy-five clinical studies we have been unable to demonstrate any direct correlation between our estimate of the thickness of interposed body wall between the kidney and the scintillation crystal with the tracer dose. However, in children of less than twelve years 0.3 uc/kg is preferred for diagnostic studies. (See Figure 1D.)

Initially we also obtained abnormally high curves on the right due to hepatic uptake.[22] The hepatic contribution to the right renal uptake was confirmed by the simultaneous injection of Iodine 131 tagged Rose Bengal and Iodine 131 tagged Diodrast. As it is impossible to collimate out the liver we used wide field collimation in either the prone or erect position. We feel it is very important to have a preliminary roentgenogram made at the time of urography in the position the patient is to be examined in order to accurately localize the kidney area. We have not found it justified to routinely increase patient examination time by scanning the renal area for the site of maximum activity following a preliminary radioactive test dose.[10] However, this technique has proved invaluable in cases of nonvisualization of either the renal collecting pattern or renal outline in previous intravenous urography. The scintillation crystal size and flat-field collimation was chosen so that off-field radiation from the bladder is completely rejected. We found no advantage in gamma ray spectrometry in "sharpening" the diagnostic portion of the rectilinear recordings. The relative activity of the renographic divisions was inversely proportional to the tracer dose and not definitely changed by pulse height discrimination despite "window width." Utilization of an additional 2 inch lead shield failed to demonstrate any significant contribution from contiguous vascular pools, i.e. aorta and major vessels. Since with differential analysis we are counting only a fraction of the detectable primary gamma rays, it was only necessary to increase the quantity of radioisotope used in the tracer in order to obtain a diagnostic recording. Therefore, we use an integral count rate meter with a time constant of 10 seconds which we feel is approximately one-third the shortest significant transient.

We have circumvented the difficulty of falsely elevated right renal uptake by using a primer dose of non-radioactive "cold" Diodrast. Belton Burrows[3] of the Massachusetts Memorial Hospital has shown us that a primer dose (75 mgm) will double the 30 minute excretion of Iodine 131 tagged Diodrast. Hepatic binding of the "hot" tracer and lowered renal clearance diminish tubular secretion to a lower level than that expected from previously reported extraction ratios.[2] The average extraction ratio obtained by Corcoran was 87%.[7] Winters used larger primer doses of cold Diodrast which exceeded the tubular maximum secretory capacity. This also diminished the subsequent tubular secretion of the "hot" tracer. In the normal patient the examination is completed in 10-15 minutes, while abnormal tracings are continued for 20-30 minutes.

Interpretation of the Radiorenogram

In evaluating the normal radiorenogram the relationship between the blood clearance rate and the renal accumulation and clearance rates must be clearly understood. If a scintillation detector is placed over the heart and a second detector is placed over the left kidney there is a very rapid rise in blood radioactivity following the intravenous injection of radioiodine tagged Diodrast. After quickly reaching a point of maximum blood activity the curve undergoes a rapid exponential decline. After the blood activity has peaked and is falling

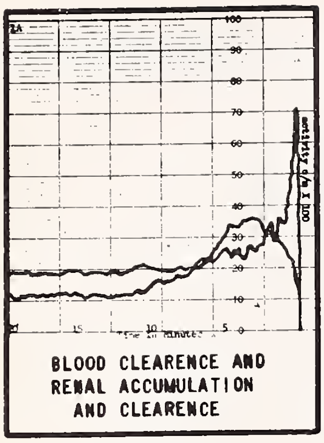

Figure 1A

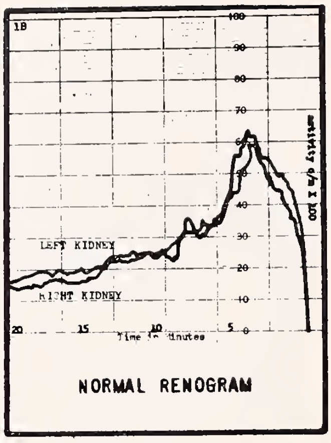

Figure 1B

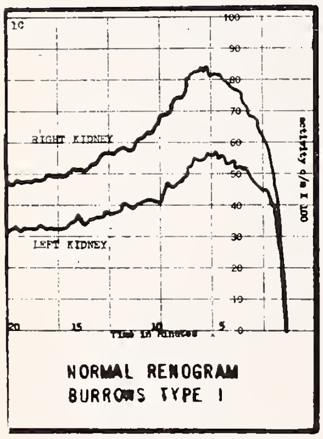

Figure 1C

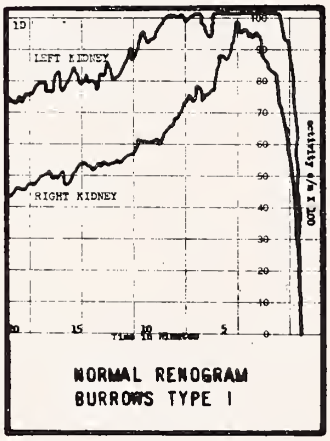

Figure 1D

the renal activity continues to rise, but at a slower accumulation rate. Approximately 2-3 minutes after the blood activity has declined to a plateau, the renal activity reaches maximum. It then undergoes a slow exponential decline, arriving at a minimum plateau in approximately 10-15 minutes. (See Figure 1A.) It is seen that the first increase in renal activity corresponds to that of the blood as it indicates radioactivity in renal vascularity and the surrounding area within the collimated field (Segment A). The beginning of the second rise in renal activity is marked by the beginning of the decline of blood radioactivity. This secondary renal rise (Segment B) enables us to quantitate renal cellular secretory function. The accumulation gradient of Segment B diminishes as less radioactive tracer is available in the blood coming into the kidney and also as more and more tracer is excreted via the upper urinary tract. When renal excretion equals the rate of renal cellular secretion, the level of renal radioactivity reaches a maximum. Segment C undergoes a slow exponential return to a minimum plateau. It measures the dominance of renal excretion over accumulation. This segment enables us to evaluate and possibly quantitate relative patency of the upper urinary tract. (See Figures 1B, 1C, and 1D.) However, it should be emphasized that the gradient of exponential decline of this segment depends primarily on renal tubular cell secretory function and only secondarily on patency of the upper urinary tract. In interpreting a slowly falling Segment C one must be certain renal cellular secretory activity is normal before diagnosing partial obstructive uropathy. When both renogram curves reach a transitory equilibrium maximum (t.e.m.) at the same time equal renal cellular function is documented. If a unilateral t.e.m. lag is demonstrated a relatively elevated Segment C does not always indicate partial upper urinary tract obstruction. However, if the t.e.m. is bilaterally equal, regardless of normal or abnormal tubular cell activity, unilateral partial obstructive uropathy may be diagnosed if a unilateral slowly falling Segment C exists. It is emphasized that a normal renogram indicates the absence of upper urinary tract obstruction or stasis and also proves the presence of normal renal vascularity and tubular cell function.

If the intravenous injection of the radioactive tracer is perivascular, a characteristic renogram is made. The initial vascular Segment A is depressed with a slow accumulation gradient. (See Figure 2A.) This is readily confirmed early in the examination by surveying both antecubital spaces.

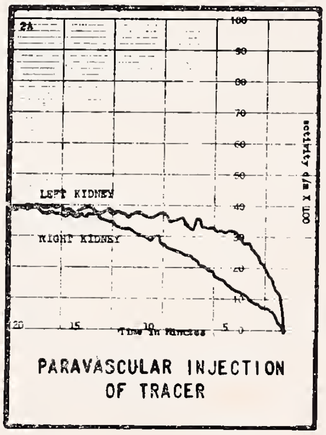

Figure 2A

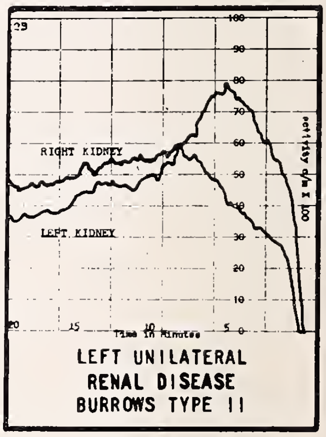

Figure 2B

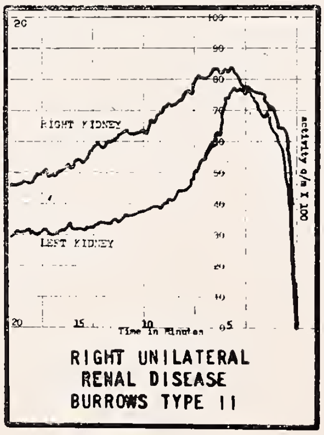

Figure 2C

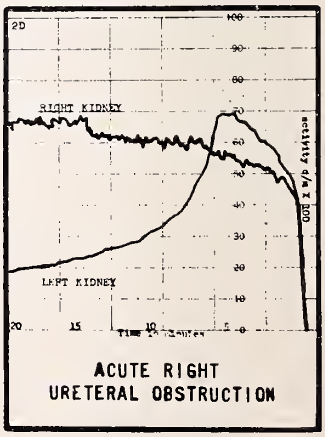

Figure 2D

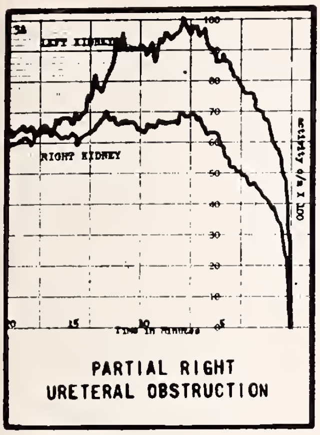

Figure 3A

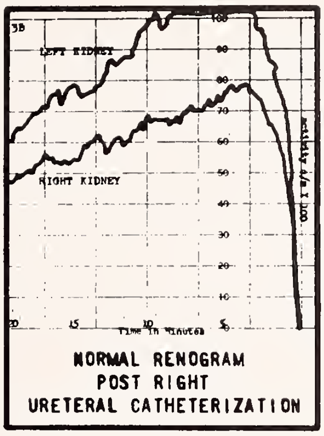

Figure 3B

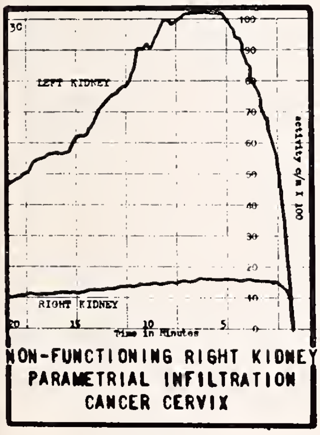

Figure 3C

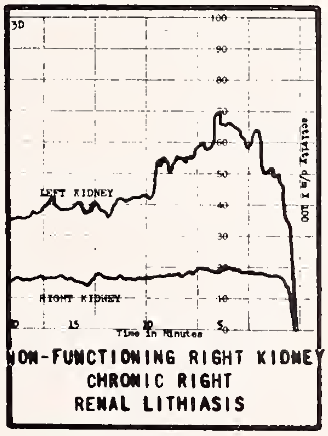

Figure 3D

Disturbances of renal function cause characteristic changes in the radiorenogram. In unilateral renal disease a Burrows Type II renogram is obtained. Segment A may be normal or somewhat low. Segment B is depressed and prolonged with the t.e.m. being definitely retarded when compared with the opposite kidney. The slope of Segment C while diminished is not diagnostic (See Figure 2B.) It is emphasized that the transient maximum height of the curve (maximum radioactivity) in itself is not of diagnostic importance. In several instances of proven unilateral renal disease the transient maximum count rate was greater than that of the normal kidney. Diminished function is based on t.e.m. lag and the slope of Segment C. (See Figure 2C.)

The graph of acute unilateral obstruction is pathognomonic and completely different from that of non-functioning kidney. In acute obstruction the initial vascular Segment A is low due to associated circulatory depression. Segment B continues to rise as radioactivity accumulates in the renal tubules and pelves. The curve usually reaches a plateau in 20-30 minutes (See Figure 2D). On the other hand, in partial obstructive uropathy the renogram is characteristic provided some renal function remains. The initial vascular Segment A is usually not affected. Segment B is normal demonstrating no t.e.m. lag. Segment C is markedly elevated. Its downwarrd slope within 30 minutes confirms not only a degree of ureteral patency but also good tubular cellular secretory capicty. (See Figure 3A.) In this case an indwelling ureteral catheter was used and the radiorenogram immediately returned to normal. (See Figure 3B.) With a non-functioning kidney, the renogram plateaus immediately after the radioactivity is distributed throughout the vascular system—completion of Segment A. The curve is exactly the same as those obtained with a comparable quantity of radioactivity injected as Iodine 131 tagged human serum albumin. (See Figures 3C and 3D.) Figure 4A illustrates a case of terminal bilateral nephrosclerosis. Segment A is diminished showing bilateral decreased renal blood supply. Segment B is prolonged consistent with a severe degree of impairment of tubular cellular secretion. Although renal function may be impaired bilaterally the radioisotope renogram enables the physician to simultaneously compare one against the other. Figure 4B illustrates a patient with a right nephrectomy and chronic left pyelonephritis, while Figure 4C demonstrates the relative degree of renal involvement in each kidney in a patient with bilateral chronic pyelonephritis.

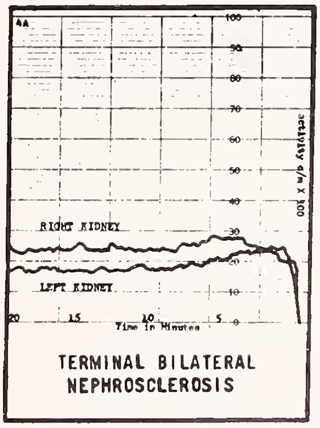

Figure 4A

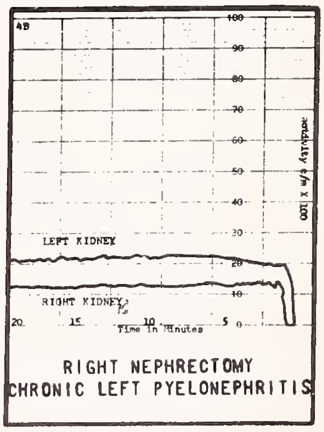

Figure 4B

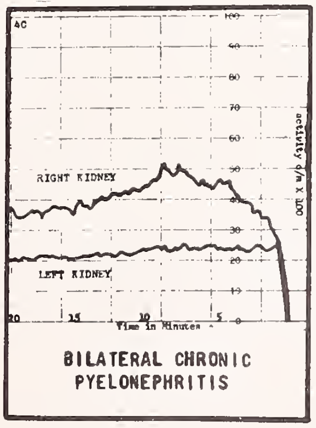

Figure 4C

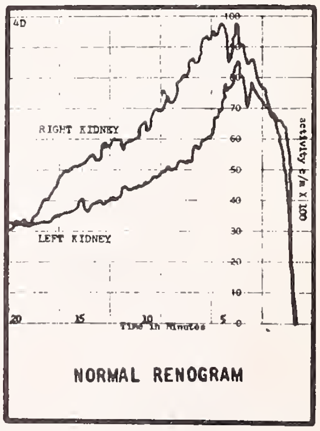

Figure 4D

Radiorenography may not only demonstrate unilateral renal disease in the presence of normal intravenous pyelography, but also may be normal in instances of non-visualization of the renal collecting patterns on routine pyelography saving the patient expense and physical discomfort of cystoscopy and retrograde study. Figure 4D illustrates a patient without renal signs or symptoms and normal laboratory findings. The intravenous urogram revealed non-visualization of the left collecting pattern. Bilateral radiorenography reveals normal blood supply and function bilaterally.

Comment

I feel the greatest significance of this paper is the demonstration of the clinical applicability and usefulness of the external gamma ray scintillation counting and rectilinear recording technique. It permits the continuous measurement of multiple physiologic events occurring simultaneously in two separate kidneys, enabling us to compare one with the other. The study has shown excellent correlation of the renogram with the standard methods of determining split renal function. This correlation emphasizes the value of the radioisotope renogram in screening hypertensive patients in suspected unilateral renal dysfunction. Patients with abnormal renograms need further urological studies; while those with normal renograms may be spared the increased hospital stay, expense and physical discomfort associated with these tests. The radiorenogram is the only renal function test which measures the three functions related to the etiology of renal hypertension: (a) renal vascularity, (b) renal tubular cellular secretory capacity, and (c) upper urinary tract stasis.

When the radiorenogram demonstrates unilateral renal ischemia and functional impairment, unilateral renal disease is confirmed utilizing differential renal function tests with emphasis on the Howard Test.[6, 12] Howard[14] has shown that reduction in sodium and water excretion occurs before changes in glomerular filtration rate can be detected. In a positive test there is at least a 50% decrease in water excretion and a 15% decrease in sodium excretion.[6] Dunn and Brown[8] point out that the concentration of sodium in ureteral urine is the most important as volume studies may be misleading due to leakage of urine around the catheter.

After unilateral renal disease has been confirmed by split renal function tests, Burns[5] and Poutasse[18,19] stress the importance of renal angiography by means of lumbar aortography for demonstrating renal arterial lesions. In this manner indications for surgical procedures less than nephrectomy are disclosed. Hypertensives may then be cured without the necessity for nephrectomy. Upon aortographic exclusion of such renal lesions the indication for neprectomy in hypertensive patients exists.

Summary

The radioiodopyracet renogram has provided an additional valuable screening procedure for the detection of unilateral renal disease as well as being an important diagnostic method in certain urologic patients. No advantage of differential over integral counting was observed. One inch thick lead collimation (skin contact) is sufficient to shield the contiguous vascular pools and urinary bladder. A primer dose of 75 mgm of non-radioactive iodopyracet is essential to obtain a sharply defined renogram. Scanning the renal area for the site of maximum activity following a preliminary radioactive tracer is necessary in patients with non-visualization of the renal outline or collecting pattern on intravenous pyelography.

We have developed the following plan in investigating hypertensive patients: (1) intravenous pyelography, (2) radioiodopyracet renography—depending upon the findings in these examinations, (1) retrograde pyelography, (2) differential kidney function tests with emphasis on the Howard Test, and (3) lumbar aortography are done.

The cooperation of the Resident and Attending Medical Staff of St. Mary's Hospital was received with deep appreciation.

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Many forms of insanity are unquestionably the external manifestations of the effects upon the brain substance of poisons fermented within the body just as mental aberrations accompanying chronic alcoholic intoxication are the accumulated effects of a relatively simple poison fermented out of the body. These poisons, we shall, I have no doubt be able to isolate after we know the normal chemistry to its uttermost detail. And then will come the crowning discoveries of the antidotes to the poisons and to the fermenting causes and processes which produce them.—THUDICUM IN 1884.

Indications And Applications Of Left Heart Catheterization In The Right Lateral Decubitus Position*

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CHARLES E. McLEAN, M.D.
MAX ZEHNDER, M.D.
Hartford

In the past few years the chambers of the left heart have been entered from many angles with a variety of needles for diagnostic studies. Despite purported advantages of the transbronchial, transesophageal, supraclavicular and precordial routes, the most popular route of entry has been the right paravertebral area with the patient prone for fluoroscopic control. For a two year period we have studied a small and selected group of patients with left heart catheterization in the right lateral decubitus position. Before adopting the standard technique to be described below, the right paravertebral percutaneous approach was used in the prone and both lateral decubiti. In a few patients the supine position was used with a precordial approach to the left ventricle.

Gadboys, Roy and Dow have recently described their experience with left heart catheterization in this position.[1] This report is designed to supplement their experiences and to discuss the principles underlying our use of this technique. The pioneering efforts of Bjork and others in the development of left heart catheterization are well documented in the literature and need no elaboration here.[2,3,4,5] The broadening scope and versatility of intracardiac surgery with cardiopulmonary bypass make a continuing evaluation of this technique of considerable importance as the indications for surgery change, and the morbidity from left heart catheterization diminishes.

Materials and Methods

The pressure tracings and electrocardiograms were monitored by two systems—The Electronics for Medicine Research Recorder and the type SYPB-2 Hathaway Pressure Recorder. Both systems use a cathode ray tube for monitoring but different methods of recording on photographic paper. The Electronics for Medicine photographic paper is activated directly from the cathode ray tube without the use of mirror galvanometers, which are present in the Hathaway Oscillograph. The Hathaway frequency response is flat from 0 to 500 cycles per second; the Electronics for Medicine from 0 to 400 cycles per second. The two types of pressure transducers used were the Hathaway variable inductance gauges and Statham Physiological Pressure Transducers, Model P23. Comparable waves were recorded by both systems.

The baseline reference level was taken at a point two inches below the spinous processes with the patient lying in the right lateral decubitus position. This is the point of needle insertion and was chosen because it maintained a more constant relationship from one patient to another. Any set number of centimeters above the table top was too variable because of different chest diameters.

The routine cardiac x-rays obtained on each patient included an upright postero-anterior, left lateral, and both oblique views of the chest with barium in the esophagus. An antero-posterior exposure of the chest in the supine position using a Bucky diaphragm is obtained on those patients having left heart catheterization. From the lateral

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* This was supported in part by the general research funds of the Hartford Hospital, Hartford, Connecticut.

. . . Thirty-four patients were studied. Advantages and complications are described. . . .

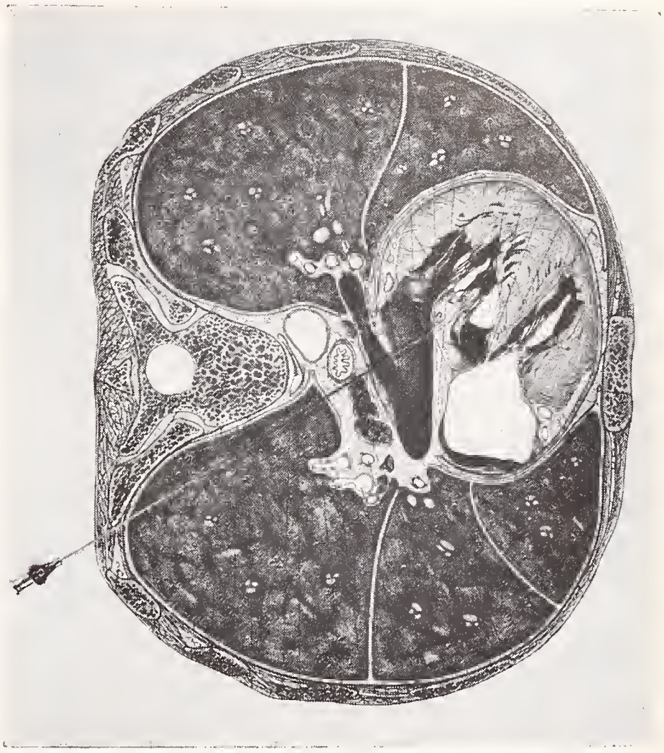

Figure V
Anatomical relationship of needle introduced into the left atrium via the right lateral decubitus approach.

view of the chest, the proper needle length is selected and using the frontal views, great care is given to choosing the proper intercostal space for insertion of the needle. In the supine film, the interspace just caudad to the auriculo-ventricular junction on the left border of the cardiac silhouette is selected. The same, but contralateral, interspace is located by fluoroscopy and marked with a light needle scratch on the patient's back. When a double-auricle shadow can be visualized to the right of the spine, the interspace overlying the caudal aspect of the left atrium is selected. In the vast majority of cases, the ninth intercostal space on the right is the one selected.

With the patient in the right lateral decubitus position, electrodes are placed on the extremities for a continuous electrocardiogram, and a 20-gauge Riley needle is inserted into the right brachial artery. The back is prepared with aqueous zephiran and draped with sterile sheets. Novocaine without vasoconstrictors is infiltrated in the proper interspace, four or five centimeters to the right of the spinous process. An 18-gauge thin-walled needle (with an internal diameter the equivalent of a 17-gauge needle) is directed between the ribs and deviated slightly medially to clear the anterolateral aspect of the vertebral body.* There is no cephalocaudad deviation during the insertion of the needle.

Although intracardiac clotting and embolism have been reported, we have found it unnecessary to use heparin in the perfusate. By inserting the stylet in the needle when not perfusing or recording, one prevents the formation of a thrombus and inadvertent embolism. By careful withdrawal of the nylon tubes through the non-cutting, blunt needle barrel, one prevents segments of tubing from shearing off and embolizing. The catheters fit snugly inside the 18-gauge needle to prevent retrograde clotting in the needle barrel.

When the monitoring oscilloscope shows a left atrial tracing, a nylon catheter is threaded through the needle for continuous left atrial and ventricular tracings with simultaneous recordings of brachial artery pressure.** Continuous tracings on withdrawal of the catheter through the mitral valve are recorded repeatedly. Simultaneous left ventricular and left atrial tracings require a larger needle and a more complex technique and, therefore, were not done in this series. With the heart in sinus rhythm, mitral gradients are accurate and reproducible. When atrial fibrillation is present, the mitral gradients may be variable and misleading without simultaneous left atrial and left ventricular tracings. However, in those relatively regular fibrillators, repeated withdrawal tracings from ventricle to atrium are usually adequate to establish the gradient.

When needed, right heart catheterization was completed before left heart catheterization was started. The theoretical value of simultaneous right and left heart catheterizations does not appear es-

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* These needles are made by the Hub Needle Company, Boston, Massachusetts.

** 0.95 mm o.d. x 0.48 mm i.d. U.S. Catheter and Instrument Company, Glens Falls, New York.

TABLE I

1.	Total number of left heart catheterizations	41
2.	Number of patients studied in the right lateral decubitus position	34
3.	Average age in years	44.6
4.	Males	15
5.	Females	19
6.	Type of lesion	
	Aortic stenosis	13
	Mitral stenosis	6
	Mitral insufficiency	7
	Combined lesions	4
	Non-rheumatic heart disease	4
7.	Operated cases	14

sential for practical clinical usefulness. Exercise studies were limited to right heart catheterizations. The exercise test consisted of five minutes of bicycling motion of the legs with the patient supine and with blood and gas samples collected during the fifth minute.

Results

From Table I it can be seen that forty-one left heart catheterizations were carried out at the Hartford Hospital between February, 1956 and November, 1958. Thirty-four of these procedures were performed with the patient in the right lateral decubitus position. This report is concerned with these 34 patients. Twenty-nine of this group underwent catheterization of the right, as well as the left, heart, either immediately preceding the left or within a few days of it. The average age of the patients studied was 44.6 years with a range of from 25 to 66 years. Nineteen were female and 15 were male. Thirty of the 34 patients had rheumatic heart disease; three were arteriosclerotic in origin; and one demonstrated an idiopathic myocardial fibrosis at post-mortem examination. The diagnosis was confirmed by operation in 14 cases; six with aortic stenosis, seven with mitral stenosis, and one with mitral insufficiency. The remaining 20 are either awaiting surgery, or they are not surgical candidates.

The non-rheumatic cases are of interest in that all resembled mitral stenosis clinically, except for the mitral diastolic murmur. In no case was this an undisputed finding. The findings of significance with regard to right and left heart catheterization may be seen in Table II. E. B. was essentially normal at rest with a modest rise in his pulmonary artery pressure during exercise. No ventricular filling pressure gradient nor aortic systolic gradient was demonstrated in any of the four patients. K. K. was similar to E. B. except that during exercise the cardiac index fell. As might be expected, K. K. fatigued earlier and was somewhat more dyspneic than E. B. with a similar degree of exercise. Neither of these patients demonstrated elevated left ventricular end-diastolic pressures at rest. In contrast to the first two, the last two patients (W. B. and J. C.) both had resting elevations of their left ventricular end-diastolic pressure with slight elevations of the pulmonary artery pressure. Both had low cardiac indices at rest, and both developed more substantial elevations of pulmonary artery pressure with exercise comparable to that of the first two patients. Because of contaminated gas samples, the exercise output studies of W. B. were invalidated. Except for E. B., all of these patients found it necessary to take digitalis. However, none exhibited pulmonary rales, or peripheral edema at the time of catheterization, either at rest or with exercise.

The last patient in the non-rheumatic group (J. C.) was able to climb two flights of stairs without significant dyspnea and worked as a night watchman without complaint. The third patient (W. B.) came to post-mortem examination several months after left heart catheterization. Minimal evidence of coronary sclerosis was found. However, he did demonstrate a considerable degree of fine myocardial fibrosis with mural thrombi in the left ventricle. The exact etiology of the myocardial fibrosis was not defined but it appeared to resemble that described by Lustok, et al.[6] The last two patients of the non-rheumatic group demonstrated a lack of correlation between elevation of left ventricular end-diastolic pressure and the clinical picture of left ventricular failure.

Further analysis of all our patients with aortic stenosis, together with all remaining patients who

TABLE II

PATIENT	PRESSURES IN MM HG					CARDIAC OUTPUT L/MIN		CARDIAC INDEX L/MIN/M^2BSA	
	LA	LV END DIAS.	MEAN PULMONARY WEDGE	PULMONARY ARTERY REST	PULMONARY ARTERY EXERCISE	REST	EXERCISE	REST	EXERCISE
E. B.	10/7	8	5	19/8	51/19	4.48	8.84	2.80	5.52
K. K.	15/9	9	12	25/10	47/23	6.30	4.96	3.80	2.99
W. B.	23/17	18	No Wedge	37/21	75/35	3.44	—	1.88	—
J. C.	22/16	16	20	39/20	73/40	3.69	5.18	2.05	2.88

Table III

PATIENT	DIAGNOSIS	RHYTHM	LA_p	END LV_p (DIASTOLIC)	BA_p	AORTIC SYSTOLIC GRADIENT	AORTIC SYSTOLIC MEAN GRADIENT	VENTRICULAR FILLING P. GRADIENT	CARDIAC INDEX L/MIN/M^2 BSA
1. V. A.	AS	NSR	42/23	257/23	100/61	157	97	0	—
2. D. B.	AS	NSR	—	227/18	132/87	95	—	—	2.5
3. I. B.	AS	NSR	—	134/9	94/54	50	26	—	4.4
4. K. B.	AS	NSR	9/6	188/7	93/54	95	52	0	4.3
5. M. B.	AS, AI, MI	NSR	14/9	222/8	159/73	63	63	0	4.2
6. R. D.	AS, MS	NSR	35/23	183/6	97/60	86	62	17	1.8
7. C. G.	AS, AI	NSR	29/12	168/12	102/40	66	38	0	3.7
8. G. J.	AS	NSR	34/25	167/25	115/57	52	40	0	2.4
9. J. L.	AS	NSR	—	172/11	110/57	62	52	—	1.9
10. D. M.	AS	NSR	—	164/28	91/59	73	53	—	2.8
11. H. M.	AS	NSR	24/17	194/17	138/71	56	50	0	1.3
12. R. L.	AS	AF	26/14	187/15	101/55	86	71	0	—
13. J. T.	AS	NSR	20/16	177/17	117/60	60	45	0	—
14. B. W.	AS	NSR	—	156/14	118/77	38	29	0	6.1
15. G. B.	MS, MI	NSR	26/18	105/14	118/68	0	0	4	—
16. V. T.	MS, MI	AF	41/33	123/31	124/74	0	0	2	2.05

Analysis of all patients with aortic stenosis and patients with other lesions who had elevated end diastolic pressures in the left ventricle. AS = aortic stenosis; AI = aortic insufficiency; MS = mitral stenosis; MI = mitral insufficiency; NSR = normal sinus rhythm; AF = auricular fibrillation.

exhibited elevation of the left ventricular end-diastolic pressures, may be seen in Table III. Only one of these had evidence of pulmonary rales of a minimal degree at left heart catheterization. This patient (V. T.) was one of two with elevated end-diastolic pressures who had combined mitral stenosis and insufficiency. Atrial fibrillation was present in V. T., but the other patient in her category was not fibrillating. In the non-rheumatic group, only J. C. exhibited atrial fibrillation. From Table III it can be seen that only one of the patients with aortic stenosis had atrial fibrillation. This patient, plus seven others with pure aortic stenosis, had definitely elevated left ventricular end-diastolic pressures without pulmonary rales, even with the exercise performed. Of the group of patients with aortic stenosis and relatively normal left ventricular end-diastolic pressures (5), two had associated valvular lesions. Thus only three of 11 patients with essentially pure aortic stenosis had normal left ventricular end-diastolic pressures. One of the three patients with aortic stenosis combined with other lesions (C. G.) demonstrated a borderline elevated end-diastolic pressure. It would seem that only V. T. approached pressures in the region of the plasma osmotic pressure. Her end-diastolic pressure at rest was 31 millimeters of mercury. No exercise was attempted in this patient. During the three weeks leading up to the catheterization of this patient, she had been under a rigid medical program with diuretics on a daily basis, bed-rest, digitalis and salt restriction.

Comparative pressure tracings made with the small nylon catheter passed through the left atrial needle and tracings made in the pulmonary wedge

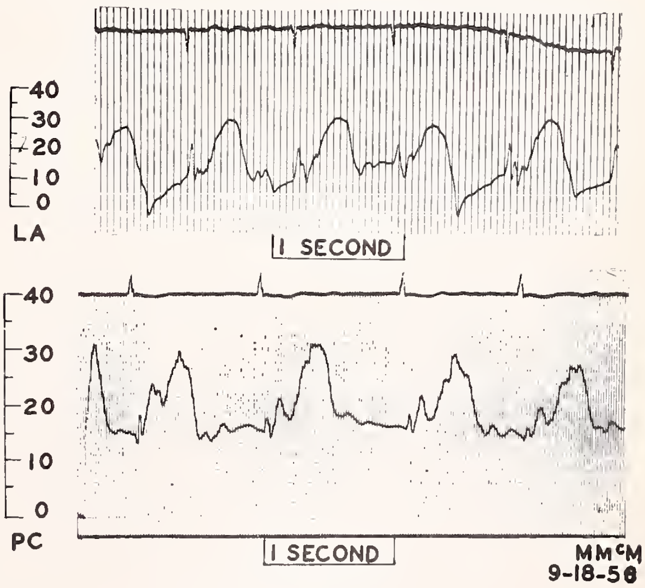

Figure I

A comparison of pressure tracings in the left atrial (upper) and pulmonary wedge (lower) positions made in a patient with severe mitral insufficiency.

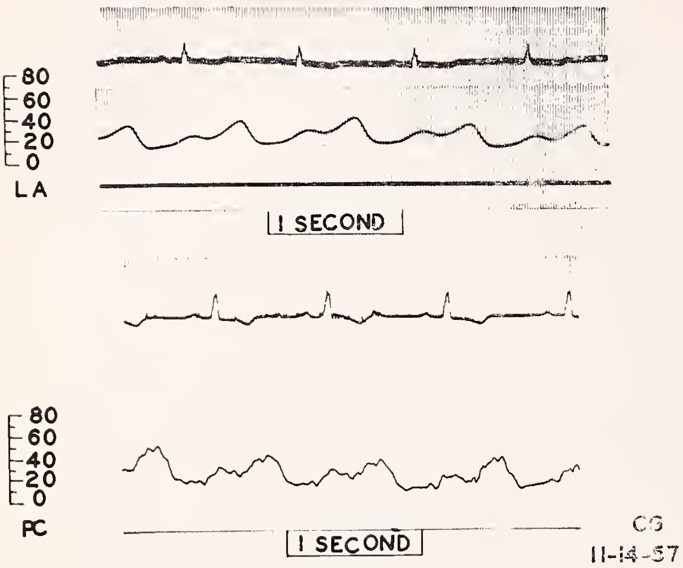

Figure II

A comparison of pressure tracings in left atrial (upper) and pulmonary wedge (lower) positions in a patient with no significant mitral insufficiency.

position are demonstrated in Figures I and II. Figure I is from a patient with severe mitral insufficiency and needs no further description, for the typical patterns with the large V-wave, abrupt Y-descent, and X-wave well above the baseline are obvious.[7] Figure II compares the left atrial and wedge pressures in a man with no significant mitral insufficiency complicating his primary aortic valvular lesions of combined aortic stenosis and insufficiency. The damping effect of the small nylon catheter is evident from the smoothness of the left atrial-wave contours.

In all patients studied, the tracings made in the right lateral decubitus position were comparable in quality to those made in the supine and prone positions in this and other laboratories.[8, 9, 10] Figure III is an example of a tracing from a patient with combined mitral and aortic stenosis, confirmed at operation. To compare further the damping effect of the small nylon catheter, tracings were made directly from the left atrial needle and then with the catheter in position (see Figure IV). Again the smoothing out of the curve is noted. This damping effect would not appear to be a significant factor insofar as diagnosis is concerned.

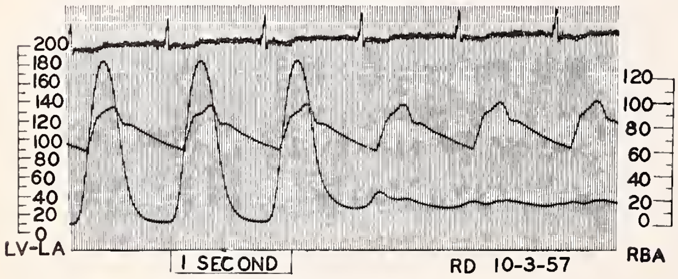

Figure III

Upper trace = EKG; middle trace = right brachial artery; lower trace withdrawal from left ventricle to left atrium in a patient with combined aortic stenosis and mitral stenosis. Note the aortic systolic gradient and mitral diastolic gradient.

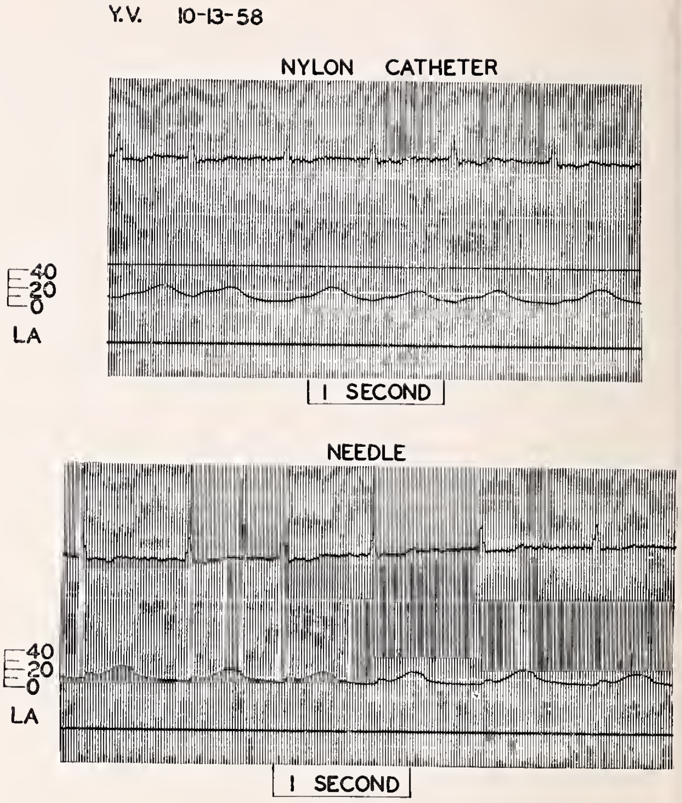

Figure IV

Comparison of left atrial pressure tracings made through the nylon catheter (upper) and directly through the needle (lower).

Of the 34 patients studied in the right lateral decubitus position, the needle entered the left atrium with ease 29 times. The small nylon catheter was then passed into the left ventricle with ease in 24 of these 29 patients. In five patients the needle entered the left ventricle on the first pass, and since the purpose was evaluation of the aortic valve, no further attempt was made to enter the atrium.

Morbidity

Table IV presents the pattern of morbidity from this procedure as we have found it. We have had

Table IV

COMPLICATION	NO. OF PATIENTS	PERCENTAGE
Chest Pain	15	44%
Minor Hemoptysis	6	18%
Slight Fall in B.P.	5	15%
Minor Pneumothorax	3	9%
Transient Cerebral	1	3%
Major Fall in B.P. Major Pneumothorax	1	3%

Type and incidence of complications observed in 34 patients undergoing left heart catheterization in the right lateral decubitus position.

no mortalities. The most common complication was a pleuritic type of chest pain related to deep inspiration and present in the region of the needle puncture. As a rule, it lasted from six to 24 hours and was present in 15 patients (44 per cent). Minor hemoptysis, consisting of bleeding that stopped immediately or with blood-tinged sputum for a few hours, occurred six times (18 per cent). A slight fall in blood pressure was noted in five patients (15 per cent); the systolic pressure never fell below 100 millimeters of mercury in these five patients. Minor pneumothorax, consisting of a totally asymptomatic situation with a small amount of air noted in the apical area, occurred three times (nine per cent). Clearing was spontaneous in less than six days in all cases. One patient, who had marked mitral valvular calcification with atrial fibrillation, developed slight weakness of the right arm and leg. This was first noted about five hours after the procedure with complete clearing three hours later. The symptoms did not return, nor could any neurological change be found following recovery. We have assumed that a small piece of loose clot escaped from the atrium, or that a small piece of calcium was dislodged from the valve. Another patient developed a massive tension pneumothorax on the right side with an associated major drop in blood pressure presenting a shock picture until the pneumothorax was relieved. It was necessary to intubate the right pleural cavity, but the leak sealed off allowing removal of the tube in four days. There was no further recurrence. We had no cases with demonstrable hemothorax, nor did any patient develop fever following the procedure.

Discussion

Serious complications of left heart catheterization reported in the literature have usually involved bleeding. Some intrapericardial blood can usually be seen in those who come to surgery soon after the left atrial puncture. These amounts are rarely detectable preoperatively and are not usually a problem, unless the root of the aorta is punctured. In none of our cases was serious bleeding encountered. The ability to puncture the left atrium on the first attempt with a relatively small needle of the 18-gauge size is important in avoiding this complication. If the needle is positioned low in the atrium, the mitral valve is quickly traversed with the nylon catheter and the study is completed in a few minutes.

The right lateral decubitus position is ideally suited for positioning the needle low in the left atrium, since the left atrium moves to the right of the spine. Normally, in other positions, only the upper portion of the left atrium presents to the right of the spine. By tapping the lower portion of the left atrium, one avoids the vessels at the base of the heart responsible for most of the serious bleeding. Moreover, the needle is pointing at the valve orifice and down the bore of the left ventricle toward the apex (Figure V). From this vantage point, the flexible catheter readily traverses the mitral valve, even against a regurgitant jet. Most of the failures to catheterize the left ventricle occurred early in our series, before this principle was fully appreciated. This, together with the change from polyethylene to nylon catheters, has proven most helpful.

As experience with this technique has accumulated, it has developed as a logical extension of right heart catheterization, to be performed by the cardiologist, with only occasional participation by the surgeons. Although this may be a safe and sound progression, the greatest safety factor in this type of diagnostic maneuver is the willingness and ability of the responsible physician to undertake immediate thoracotomy and cardiac resuscitation in the rare case when it is necessary. An anesthetist and proper resuscitative equipment should therefore be available before these procedures are undertaken. All of the patients studied with this method were potential candidates for surgery (see Table I). The data obtained had more than academic relevance in all cases and usually was the decisive factor in selecting patients for cardiotomy and influencing the surgical approach.

As can be seen from Table III, patients with aortic stenosis showed systolic peak gradients from 38 to 157 millimeters of mercury and mean gradients from 26 to 97 millimeters of mercury. In all cases coming to surgery, the transaortic approach allowed palpatory evaluation of the valve morphology. This morphology corresponded well to the preoperative estimation in all cases. This was true even when some aortic regurgitation was present. However, one must recognize the development of a false systolic gradient in the presence of regurgitant flow. In this situation, the regurgitant volume plus the effective, or net, cardiac output combine to produce the aortic systolic gradient so that calculation of valve size must take this factor into account. Estimation of regurgitant flow is gross at best, but one can judge to some extent on a clinical basis. The level of the arterial diastolic blood pressure may be a helpful guide provided the status of peripheral vasomotor tone, the pulse rate, and the age of the patient are taken into consideration.[11] In the evaluation of aortic stenosis only the borderline levels of aortic insufficiency are of concern. As a further help in the presurgical evaluation of aortic valvular morphology, we have been impressed with the use of cardiac fluoroscopy by means of image intensification. In every instance the degree of calcification noted with the intensifier has correlated well with that felt by the surgeon at the time of surgery.

In pure mitral stenosis, left and right heart catheterization are not usually necessary, although very effective in predicting the degree of hydraulic obstruction to ventricular filling. In the mixed mitral lesion, the quantitation of regurgitation and stenosis is less satisfactory. Clinical observation may be helpful in estimating mitral regurgitation. One of the more reliable radiological findings in the presence of advanced mitral insufficiency is the dilated left ventricle and left atrium. In this situation, left heart catheterization may be necessary in order to determine the end-diastolic pressure in the left ventricle. If one relies only on the pulmonary wedge pressure, the elevated left ventricular end-diastolic pressure may present a confusing picture which goes unrecognized. This is particularly true with atrial fibrillation or with patients in left ventricular failure even though the failure is of the subclinical variety. In the presence of significant regurgitation the left atrial pulse contour may present helpful data but as with all other measurements of mitral regurgitation, this, too, may be unreliable in the individual case.

Musser, et al. have made mention of the lack of correlation between elevation of the left ventricular end-diastolic pressure and the clinical picture of left ventricular failure in their patients with aortic stenosis.[8,9] Insofar as pulmonary edema is concerned, the last two patients of our non-rheumatic group, both patients with combined mitral stenosis and insufficiency, and eight patients with pure aortic stenosis fell into this category. In this group of patients the failure of the left ventricular end-diastolic pressure to exceed the plasma osmotic pressure of the pulmonary bed would appear to explain the absence of pulmonary edema.[12] The only patient to exhibit rales on exercise was the patient with combined mitral disease whose end-diastolic pressure was 31 millimeters of mercury at rest. Elevated end-diastolic pressures in the presence of myocarditis, as in our patient W. B., in the non-rheumatic group, have been discussed previously by Yu, et al.[13]

Summary

The indications and applications of left heart catheterization in the right lateral decubitus position are presented. Thirty-four patients were studied utilizing this approach. The advantages and complications of this method are described as they have appeared in the 34 patients studied. Characteristic pressure tracings are included along with a discussion of the findings with regard to patients of particular interest.

We wish to express our thanks to Dr. Peter Stoughton, Dr. W. P. C. Clason, and Mrs. Eleanor Lawrence for their invaluable assistance in carrying out these procedures.

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A DEVICE TO AID HAND SURGERY

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Waterbury

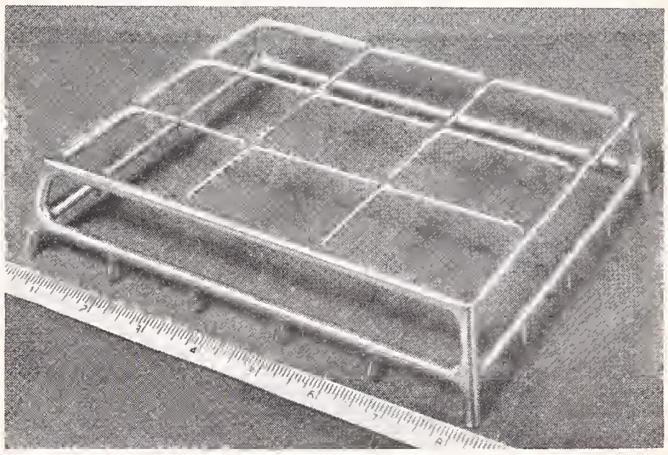

Figure 1.

A simple device for holding fingers during hand surgery has been described.[1] Such a device is not available in this country. This author has designed a hand holder in two different sizes. These devices* have been in use for two years, and have been found to be satisfactory.

The advantages of a hand holder are that it (1) frees the hands of the assistant, (2) allows for greater operating space, (3) is sturdy and autoclavable, (4) is heavy enough to hold a given position, yet, may be readily tilted when a change in position is desired, (5) permits multiple finger traction positions, and (6) allows for several methods of finger fixation.

The larger holder, suitable for adults, is shown in Figure 1. It measures eight by six and a quarter inches, and is one and three quarters inches high. Four traction points are equally spaced along the longer side, and three along the shorter, providing variable sites for traction. Its total weight is 20 ounces. The heavier construction is made of one-quarter inch copper rods, and the smaller framework of one-eighth inch rods. After soldering the joints, the entire instrument has been chrome plated and burnished.

The smaller holder (Fig. 2) measures six by four and one half inches on its working surface, and one and three quarters inches in height. Multiple traction points are also available. Its weight is 15 ounces, and it is suitable for work on hands of small adults and children.

Figure 3 depicts a hand in position for palm surgery. Two commonly used methods of finger traction are shown, that is, one with the use of an elastic band, and the other by means of a suture passed through the nail. Such a suture may also be passed through the finger pulp. Sutures such as these are necessary only when a finger does not project enough to be properly trapped by an encircling rubber band.

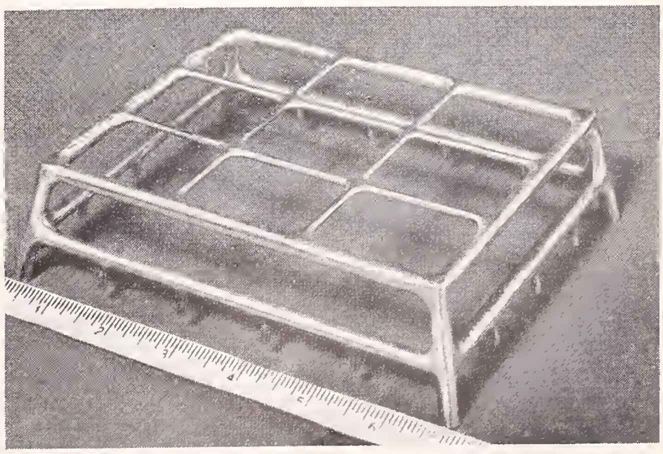

Figure 2.

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* Supplied by Eastern Malleable Iron Co., Naugatuck, Connecticut.

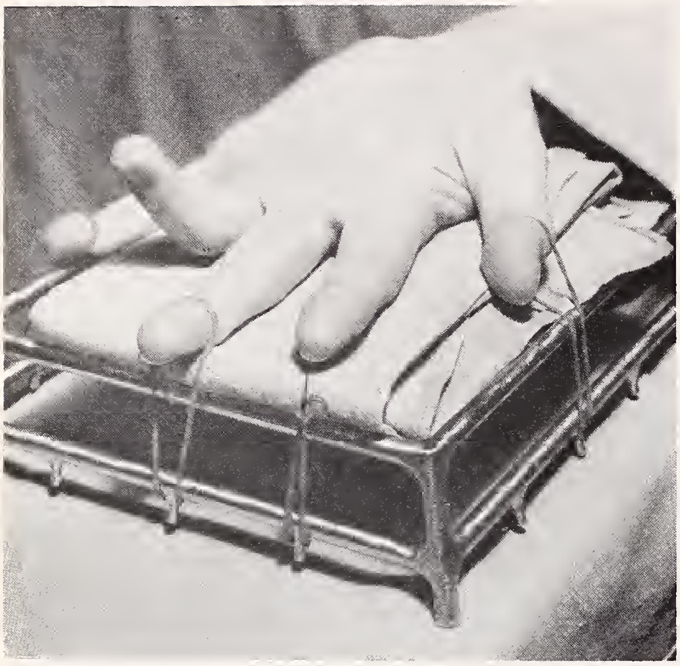

FIGURE 3.

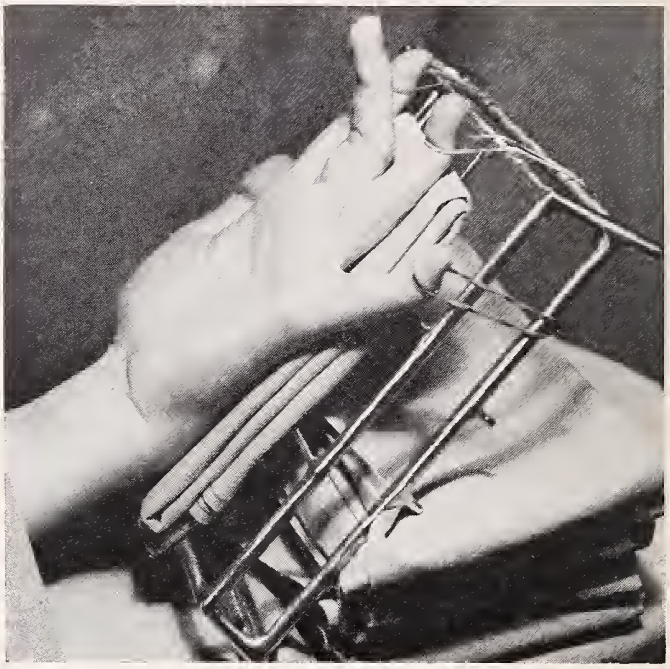

FIGURE 4.

The apparatus and the hand can be tilted if necessary for tendon relaxation, as shown in Figure 4.

In doing this type of work it is important to use a six foot board, one and one half feet in width. Placed under the patient, one half of the board extends on the opposite side for the anesthetist's use. The other half provides the surgeon with a wider operating surface than is attainable with the usual arm board. Also, it moves up or down with the operating table.

Summary

A durable holder for use in hand surgery is described. The holding frame is available in two sizes, suitable for children and adults. Several methods of finger traction are also described.

The use of a six foot board, one and one half feet wide, for the support of the arms is recommended.

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It is one thing for the human mind to extract from the phenomena of nature the laws which it has itself put into them; it may be a far harder thing to extract laws over which it has no control. It is even possible that laws which have not their origin in the mind may be irrational, and we can never succeed in formulating them.—SIR ARTHUR STANLEY EDDINGTON: Space, Time and Gravitation.

Opinion Survey And Relative Value Study

The following article presents the views of one of our colleagues who has had some first-hand experience with the use of relative value schedules. It is interesting to note that, according to his statement in the second paragraph, relative value explorations are not of such recent origin as many of us have believed.

WRR

A Well Functioning Scale of Relative Values Can Preserve The Present Doctor-Patient Relationship

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Hartford

While so-called "relative values" were completely superfluous before the era of payments by a third party, they are of great usefulness to everybody concerned in this day and age.

As one physician whose graduation practically coincided with the establishment of such a scale of relative values in France almost 26 years ago, I believe I am in a position to inform my medical colleagues in Connecticut of the advantages of such a scale and what should be done to establish one and keep it functioning.

A scale of relative values will become necessary when every procedure, including a regular office visit is to be compensated for by a third party. In order to make such a system function smoothly and to the complete satisfaction of physicians and all other parties involved, a few basic principles must be set up and strictly adhered to. In my opinion, only if these principles are accepted and closely followed, can the present doctor-patient relationship be preserved. Otherwise I believe we are almost sure to end up by having in the United States, the English or the German type of socialized medicine.

These basic principles are:

1. The scale of relative values must be established by doctors of medicine themselves. Each procedure—exclusive of pre- and post-operative care—should be expressed in terms of a multiple of a basic unit. The basic unit usually chosen is a follow-up office visit. It is completely immaterial to know what the charges in dollars of a particular physician are. What is important is that the scale of unit values of each and every procedure be established to the satisfaction of every physician; internist, radiologist, pathologist and surgeon alike. I believe it is wrong to say that a medical man should not have a voice in the establishment of the unit values of surgical procedures. Each such procedure being a multiple of the basic unit (which is an office visit, "the bread and butter of the medical man") makes it essential that such a basic unit be not depreciated. If a given surgical procedure is valued at a high number of units, the surgeon could charge a very small fee for a follow-up office visit and still get a reasonable reward for his surgery. Needless to say, in order for happiness to prevail in the medical family, surgical values must be equitable in relation to the basic unit—namely the office visit. This does not mean at all that the non-surgeon intends to tell the surgeon what his charges should be. Every M.D. would be free to charge whatever he wished for the basic unit, as he is now doing. The charges for a given procedure would be the "relative value" of this procedure in units multiplied by each particular doctor's charge for a follow-up office visit.

2. There should be a minimum dollar value assigned to the basic unit in a given geographical area. It should be declared unethical to make *less* than this minimum charge every time one deals with an insured patient, but naturally one should remain free to charge *more* if he so desires. The only way to limit one's practice is to increase the charge for the office visit. The minimum dollar value of the basic unit should be adjusted periodically according to the cost of living index.

3. In order to avoid in America what has happened in England, it would be mandatory to establish a rule that a deductible amount of 20 per cent of the minimum fee be paid by the patient himself. This would make people think twice before paying an unnecessary visit to a doctor. Once more I want to make it clear, that no doctor should in any way be obligated to charge only this minimum fee. On the contrary, every doctor should be free to place whatever dollar value he desires on the basic unit, but such a dollar value should never be less than the minimum established by the local county or state medical society.

The patient's paying 20 per cent out of his own pocket is also of great advantage to insurance companies. Not only does it discourage insured people from going to see doctors for no valid reason, but it also lessens the necessity for companies to check on the usefulness of treatments or their frequency. The fact that each time a patient plans to see a doctor he knows he will have to pay out of his own pocket a certain amount, will be a sufficient guarantee against unnecessary or too frequent treatments.

4. As a result of the adoption of a scale of relative values, one other important principle can easily be established. This is the principle of medical secrecy, which is practically non-existent today. At present, we are required to fill out insurance forms by listing the name of the disease for which treatment is rendered and each clerk handling these forms is thereby quite nicely informed about the patient's venereal disease or other potentially embarrassing condition. After a scale of relative values is adopted, the only thing the attending physician would have to report is the code number of the procedure performed and the date on which it was performed. If the insurance company desired to receive additional information, it would be necessary for the insurance doctor to call the private practitioner for further details.

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Editorials

Medical Education: Is It A Professional Or A Community Responsibility?

In this issue of CONNECTICUT MEDICINE is an article entitled *The Objectives of Hospital Medical Education Programs.*

While one cannot positively differ with what is contained in this article, one might conclude also that there has been much left unsaid concerning the problem of hospital medical education programs.

There are many facets to this problem. Admittedly our schools are not turning out a sufficient number of doctors each year to fill the interne and widening residency programs of the hospitals of the country. Neither are we providing a sufficient number to replace practitioners and meet the other demands for medical graduates.

Our medical schools are exerting pressure on their graduates for funds to maintain their schools and to expand their facilities. The American Medical Association is pressuring doctors to contribute to funds for the same purpose. A new program is being readied by the A.M.A. to provide for the expansion of existing schools and the founding of new schools.

The lack of graduates of our own schools to fill the interneships and residencies in our hospitals unaffiliated with medical schools has forced these hospitals to recruit house staff from foreign medical schools. In addition to progressively increasing their remuneration to house staff members, expensive educational programs, some of questionable value, have been initiated to further attract resident personnel. In many instances, the limited ability of these individuals to communicate with patients in English precludes the recording of good medical histories and these doctors cannot fully participate in the educational programs, however good.

It seems certain that this trend to expand educational programs is going to eventually call for standardization which, in effect, will superimpose a graduate form of medical education on the hospital with attendant highly specialized educational staff and high financial burden.

The medical school affiliated hospital, with its inbred teaching staff, will not be greatly affected by this development which means that the non-affiliated hospital will be at a disadvantage.

It is inevitable that the latter hospitals will turn to their medical staffs to finance these programs, putting a further financial burden on staff members who in turn must increase charges to patients and thus further add to the cost of medical care.

It is important that medical educators come to grips with this problem now rather than later, not only in regard to standardization of training, content and technics but also to solve the financial approach so as to equalize the burden on all segments of the community concerned.

D. S. O'C.

"Arm Chair Rest" or "Bed Rest" in the Treatment of Cardiacs

Rest to the affected part is a fundamental principle in the treatment of many conditions. A broken bone is put in a splint, a tubercular lung is prevented from moving by pneumothorax or thorocoplasty, an abrasion of the skin is protected and immobilized. In each case healing and recovery is encouraged by rest to the organ involved. When the heart is diseased there is no way to put the organ at complete rest. It was therefore taught for generations that one could obtain the greatest rest to the heart by keeping the patient constantly in bed. Bed rest became the backbone of treatment of various forms of heart disease. Even centuries ago, *patients* were aware that under certain circumstances they were much more comfortable in a chair than in bed. In fact they dreaded the bed. When they were awakened from sleep in the middle of the night, breathless and suffocating, they only found relief on sitting over the edge of the bed or standing bolt upright. When they found this repeat itself night after night, they learned that nights could be tolerable only if they slept in the chair and avoided the bed entirely.

Only very recently has physiological evidence been accumulated to prove that the heart works less with the patient sitting upright in a comfortable chair with the feet down than while recumbent in bed. Careful laboratory and scientific study have finally confirmed what patients have known from time immemorial.

It is now clear, both clinically and theoretically that cardiacs in general and especially those in whom pulmonary congestion is present, or is a possible threat, are better treated in a suitable chair than on a strict bed-rest regime. The only contraindication for the chair treatment is the presence of shock or an unduly low blood pressure. Apart from the fact that the total work of the heart is greater with the patient in bed than in a chair, there is another consideration that is vital in this problem. Even if the work of the heart were not different in the two bodily positions, the two-sided nature of the heart makes the situation peculiar. With recumbency there is a greater return flow to the right ventricle and a greater output of the right ventricle. If the left ventricle is the weaker or more vulnerable part of the heart, as is the case in hypertension, aortic valvular disease or coronary artery disease, it may not keep pace with the right ventricle. If it only expelled one drop less per beat than the right ventricle, pulmonary edema could result in a few hours. The same pulmonary congestion can develop when mitral stenosis is present, if the increased output of the right ventricle cannot readily flow through the stenosed mitral valve. This above-mentioned simple mechanism is the main factor in precipitating paroxysmal nocturnal dyspnea in cardiacs. On the contrary, in the sitting position such patients may well have more edema of the legs although dyspnea and pulmonary congestion may be less. However, the former does very little harm while the latter is the serious threat.

The logical conclusion from the above is that most patients with heart disease, except when in shock, are better treated in a chair than in bed. This applies to cases of acute coronary thrombosis or congestive heart failure. Coronary cases should not be lifted from bed to the chair. They should be guided to the chair as is done in getting a patient onto a commode. Physicians have been reluctant to permit patients with acute myocardial infarction to get out of bed. In a large measure this practice is motivated by the fear that they will be held blameworthy if something untoward develops. They also feel that all is forgiven if the patient dies under the strict bed regime. Cardiacs are supposed to die in bed. Despite all this, reports are coming in from various parts of the world indicating that patients undergoing the chair treatment for acute coronary thrombosis, do better both physically and mentally than those confined to bed. As a last word "chair" treatment must not be confused with early ambulation. The patient is to be kept just as quiet in the chair as he would be if he were in bed. Ambulation is to be instituted when it seems appropriate to permit increase in physical activities. Physicians should be courageous enough to forego an old procedure and direct their patients along a course that gives them greater comfort and greater chance of recovery.

S. A. L.

Infection, Chemotherapy and Antibiotics

"Nothing in progression can rest on its original plan."—Edmund Burke

To an erstwhile pathologist and bacteriologist, later a clinician, the beneficial developments which have taken place in medicine in the preceding two-thirds of a century have been extraordinary. The era of bacteriological and immunological progress which, except for Jenner's discovery of vaccination against smallpox, began in the latter part of the nineteenth century and continued into this century resulted, in civilized countries, in the disappearance of diphtheria, typhoid fever, and tetanus to an extent that teachers in medical schools often had difficulty in finding patients with these once common ailments to demonstrate to their students.

Since 1940 a new situation has arisen: viz, the discovery of antibacterial substances of biologic origin such as penicillin, and of new chemicals such as the sulfa drugs which inhibit the action of the causative organisms of many diseases but do not, as a rule, damage the patients harboring these. However, the situation is not quite so simple as this as has recently been ably discussed by the well known Chicago pathologist Paul R. Cannon.*

Caleb Hillier Parry once remarked that "Every evil has its counterpoise of good" and in the case of these new remedies the opposite seems to be true, namely, that every good has its counterpoise of evil. In the case of both the antibiotics and the new chemicals several unfortunate situations may arise. As might be expected some persons are allergic to the new remedies, but what happens more frequently is that some of the bacteria whose growth they usually inhibit develop *resistant forms,* that the inhibition of certain well known pathogens may be followed by infection with associated organisms, not usually pathogenic, which take on added virulence, or that undesirable side reactions, such as impairment of bone-marrow function, may supervene.

It would seem that there are normally checks and balances regulating the bacterial flora of the body cavities and that when these are disturbed by the inhibition of one type, associated germs, usually harmless, may develop pathogenicity.

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* Cannon, Paul R., Bull. New York Acad. Med. 1955, *31,* 87.

It is true that some of the diseases treated by the newer methods are themselves debilitating and that some of the phenomena discussed may be due to lowered bodily resistance. Then too, some of the modern remedies impair the beneficial effects of vitamins, which normally play a role in resistance to infection.

As Doctor Cannon shows there are plenty of statistical data indicating that the use of these modern remedies has greatly reduced the mortality from many infectious diseases. The pathologist now seldom sees lobar pneumonia, puerperal sepsis, septicopyemia, venereal diseases, purulent meningitis and mastoiditis. He emphasizes the fact that we must not allow the incidental occurrence of occasional unfavorable reactions to overshadow this obviously favorable result, but that it is equally important not to treat the untoward phenomena too lightly. Indeed he feels that continuing study of the unfavorable side reactions, which has already produced many satisfactory modifications in the drugs causing them, is a reason for optimism and that in time human ingenuity may eliminate them altogether. Meanwhile clinicians should avoid the use of these new remedies unless there are clear indications for prescribing them. Some, penicillin for example, are too often prescribed unnecessarily, thereby opening up the probability of unfavorable reactions which may interfere with their later use when urgently needed.

G. B.

Reprinted from the February 25, 1960 issue of Medical Science *with permission of the editor and the author.*

Obsolescence in Drugs

Obsolescence is an important phenomenon in the American economy. Businessmen have continually to deal with problems caused by obsolescence of machinery and processes used in manufacture and distribution. Consumers are likely to be more concerned about obsolescence of the products of industry. No American family can avoid facing the fact that automobiles and women's clothing become obsolete annually or almost annually owing largely to change in fashion. The recent hearings of the Kefauver Committee of the United States Senate have served to call attention to another type of obsolescence, that of drugs.

The differences between the two types of obsolesecence are clear. That of automobiles and women's clothing, for example, is wasteful and hence socially undesirable, since it is based largely on changes in styling. Obsolescence of drugs is socially desirable because it is based almost entirely on improvement of products. (A few drugs become obsolete because prolonged use yields undesirable side-effects, and the drugs are therefore withdrawn.) Obsolescence of drugs is a necessary consequence of research, much of which is conducted by the very pharmaceutical houses whose products are thereby driven from the market. Drugs become obsolete unexpectedly, or at least at unpredictable times after they have begun to return a profit on the cost of their development. This naturally creates much instability in the economics of their sale.

It is disconcerting to see how the Kefauver Committe distorted the data that it had at hand. For example, it was obviously either naive or unfair to base its attack on the pharmaceutical industry on the selling price of a handful of medications. All large companies make dozens or even hundreds of products; they lose money on some of them and make a good deal on others. Moreover, their profits vary markedly from time to time, and it is either naive or unfair to mention the profits of only one year. For example, Merck Sharp and Dohme's net profit on *all* its products has varied between 5.4 per cent in 1945 and 13.4 per cent in 1958. The high figure for 1958 will not necessarily be maintained. (The figure of 13.4 per cent has been criticized as antisocial because excessive, but it is interesting to compare, for example, Du Pont's 18.7 per cent, Champion Spark Plug's 16.5 per cent, and Lone Star Cement's 16.1 per cent in 1958). Actually the Government is the senior partner in the enterprise because it takes in taxes more than half the amount that represents the difference between cost and sales price. It is not the purpose of this editorial to define a fair return; that problem must be solved by economists and sociologists. However, it is hardly likely that Senator Kefauver's committee is planning to attack all American industry because it made larger profits last year than in some other years.

The high cost of illness is a serious problem. The cost of medications is only one factor in the situation. If the Senate Committee headed by Mr. Kefauver wished to perform a genuine public service it would make a fair study of this aspect of the cost of illness and would also study such factors as the high cost of distribution of medications, the great expense of maintaining hospitals (the sixth largest business in the country), and the tax laws that discriminate against physicians (while favoring oil-well owners, whose role in the community is probably no more important than the physicians'). At any rate, irrespective of which aspects of the problem the Kefauver Committee chooses to investigate, it would accomplish most if it maintained an attitude of informed fairness.

M. D. A.

Special Article

The Objectives Of Hospital Medical Education Programs*

Walter S. Wiggins, m.d., *Secretary*
Council on Medical Education and Hospitals
American Medical Association

The historical relationship in the United States between hospitals and medical education is a very clear one that goes back to the original establishment of hospitals. The Pennsylvania Hospital in Philadelphia was the first developed in the colonies which later united to become the first part of this nation.

In what were the initial hospital staff bylaws executed in this new land, it is evident that the eminent founders of that Hospital expected its facilities to be used for educational purposes. The sixth article of these rules adopted in 1752 read, "Each apprentice or other student the practitioners shall introduce to see the practice of the Hospital, shall pay one English guinea, or 34 shillings current money per year, to be laid out in medicines, or in such other manner as the managers think most proper."[1]

It became customary for attending physicians to bring their apprentices to the hospital and they also allowed other students to make rounds with them. Apparently no fee was collected from the regular apprentices but the charge was made against other students. At the request of the staff, the hospital governors agreed that funds so collected "apply to the founding of a Medical Library in the said Hospital which we judge will tend greatly to the Advantage of the Pupils and the Honour of the Institution."[2]

Within a few years, the hospital itself accepted apprentices who were indentured to the institution for a five year period. Certificates were granted by the hospital authorities on completion of study.

The New York Hospital was chartered in 1771 as the second Hospital to be founded in the North American Colonies. It also early became involved in medical education. In many respects, it is surprising that formal medical education did not continue to be primarily hospital oriented with the ultimate esablishment of hospital medical schools as they were developed and basically remain in London.

In any case, medical education has always remained identified with hospitals. The need for this close identification from education's viewpoint is readily illustrated through the development of hospital facilities by universities as necessary components of their medical schools. Is there a similar need from the hospital's viewpoint for a close identification with medical education?

Reference is often made to teaching and nonteaching hospitals. Usually these terms refer to the presence or absence of medical students. However, there are many hospitals which have no responsibilities for medical students but that do offer internship and residency positions. Clearly such institutions are involved in medical teaching and education.

What then is the relationship to medical education of hospitals without medical students and without intern or resident programs? Is there any real need for them to be identified with medical education?

All hospitals have the major obligation of providing the best possible medical services to their patients. In fulfilling this obligation, a most important responsibility of the governing body is to provide the hospital with a medical staff capable of rendering a high level of patient care. This circumstance must prevail continuously throughout the existence of the hospital. Though a competent medical staff is initially appointed, a hospital will be derelict of its obligation if it cannot assure the community it serves that medical competence remains high when measured against knowledge and judgment, skills, techniques, and tools which are currently applicable to good medical care.

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* Presented at the Symposium on Problems of Graduate and Postgraduate Education in the Community Hospital sponsored by the Connecticut Hospital Association, Connecticut State Medical Society and Yale University School of Medicine, held at Yale-New Haven Medical Center, Jan. 13, 1960.

[1] Some Account of the Pennsylvania Hospital; from its First Rise to the Beginning of the Fifth Month, Called May, 1754. As quoted in Packard's History of Medicine in the United States.

[2] Packard's History of Medicine in the United States, p. 324.

The present, almost geometric advances in medical knowledge bring ever greater emphasis to the need for physicians to pursue assiduously medical studies throughout their lives. Though much of this continuing study can, and should, take place through reading and attendance at meetings and special courses, much of it also must be a regular part of the day by day routine of a physician's career. Patient centered teaching and learning is as critically important for the practitioner as for the medical student, and much of it should take place in the hospital involving his own and his colleagues' patients.

A high level of patient care is an inevitable end result in a hospital effectively involved in educational programs for medical students, intern, residents, and the attending staff. As each ascending level of sudent is omitted, a similarly high quality of patient care is attained only with increasing and deliberate effort. The governing body of the hospital without medical students or house staff is above all the one which should be most concerned that there is a well planned and conscientiously implemented educational program for the attending staff.

I trust you will agree with me that the need for a close relationship between all hospitals and medical education is very great and that there exists mutual dependence for identification one with the other.

More directly stated, this means that a satisfactory educational program whether for students, house officers or attendings is a necessary concomitant of satisfactory medical care in *every* hospital. In most situations, the level of excellence of the one will be related ultimately to the level of excellence of the other. Therefore, the governing board, the administrator, and the medical staff should accept responsibility for the maintenance of high standards of education as well as the more widely recognized responsibility for a high standard of medical care.

In the same sense in which patient care and medical education are inseparable, so are medical education and medical research. The imaginative curiosity which characterizes the clinical investigator is an equally valuable trait for the medical teacher and the medical practitioner. In times not too far removed, many significant contributions to knowledge were made by astute clinicians who pursued, perhaps unknowingly, the scientific method as they daily observed their patients. Today with the burdgeoning research programs of medical schools and research institutes, one is impressed that physicians in other hospitals are all too ready to leave this professional responsibility to others. Medical staffs in all hospitals should exert every effort to retain and stimulate this characteristic through participation in research. It is forgotten often that this includes simple questions, simply answered.

Against this general background, I should like to consider briefly and more specifically internship and residency programs.

Historically, the internship was designed to provide the first real and continuing patient contact for the young student of medicine. With the development of the clinical clerkship as the primary teaching method during the third and fourth medical school years, the original objective of the internship has disappeared.

What logical, unique, and necessary function does the internship now fulfill? The Council on Medical Education and Hospitals now approves straight internships in medicine, surgery, pediatrics, obstetrics-gynecology, and pathology. These programs, which are found predominantly in teaching centers, most often on the eastern seaboard, are related far more to residency programs than to the traditional rotating internship. Except for semantic relationships, these can be excluded. However, one might question the necessity of adding another year to the training of the specialist.

There is at present little agreement as to the educational objectives which are served by the rotating internship. One is tempted to conclude that this type of internship now exists mostly to provide a concentrated additional clinical experience for those who desire—or must seek—a quick avenue to general practice. There is widespread belief that one year of hospital experience beyond medical school is no longer adequate for medical practice of any kind. However, in an informal poll of a substantial segment of heads of medical school departments of medicine, there was almost equal division among those who preferred the rotating versus the straight medical internship.

Although, internship and residency programs must have meaningful patient service components, they are fundamentally educational experiences. Clear-cut, educational values can be the only substantive reason for the continued existence of the internship. It is a personal belief that as long as there remain questions concerning the educational justification of rotating internships, there will exist questions regarding their future. I do not

Continued on page 318

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1. Innerfield, I.: Clinical report cited with permission
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of VARIDASE[1]

Continued from page 315

intend to imply that rotating internships are in immediate jeopardy but rather that they cannot exist forever mostly for the sake of tradition.

On the other hand, residency training programs have the more concise goal of providing a breadth and depth of experience in a specific field of medical practice. Although the Council on Medical Education and Hospitals is concerned seriously regarding proper standards of excellence and their measurement as well as the dangers of over fragmentation of medical practice and education, it is not plagued at the residency level by any basic consideration as to whether todays scene and that likely for tomorrow warrants the continuance of these programs.

Hospitals which operate sound intern and residency training receive many direct, as well as indirect, benefits. Some are related to the continuous presence of young physicians seeking more knowledge. They are or should be most interested in studying deeply and carefully each patient assigned to them. The major educational worth of these programs is derived from the young physicians' direct participation in and observance of exemplary patient service. The intern or resident must learn of the necessary, abiding dedication to the needs of the patients he serves through precept and the example set by a medical staff dedicated to the same ends. Although he should be impressed constantly that the patient's welfare has first call on his services, his experience must be structured deliberately so that the exacting demands of patient service contribute primarily to his educational development rather than to the service functions of the hospital and its medical staff. Far too often this essential requirement is left to chance. No attending physician should be allowed to receive service benefits from house officers out of proportion to his own expenditure of time, thought and effort in their education. Wherever this is the case, there results tangible gain for everyone concerned. Clearly the house officer will have the educational opportunity that is his due. Patients will benefit from his devotion to their welfare. Attending physicians will reap worthy satisfaction from fulfilling a professional obligation of the highest order and they will be more knowledgeable as a result of a stimulating association with the incessant curiosity of the young mind.

The basic objective of hospital education programs for interns and residents is the further development and growth of their professional intellect. The degree to which the hospital achieves this basic goal will determine ultimately the degree to which the hospital, its patients and its medical staff are the beneficiaries of intern and resident services incidental to the basic goal.

His (Newton's) peculiar gift was the power of holding continuously in his mind a purely mental problem until he had seen through it. . . . Anyone who has ever attempted a pure scientific or philosophical thought knows how one can hold a problem momentarily in one's mind and apply all one's power of concentration to piercing through it, and how it will dissolve and escape and you find that what you are surveying is a blank.—JOHN MAYNARD KEYNES: Essays in Biography.

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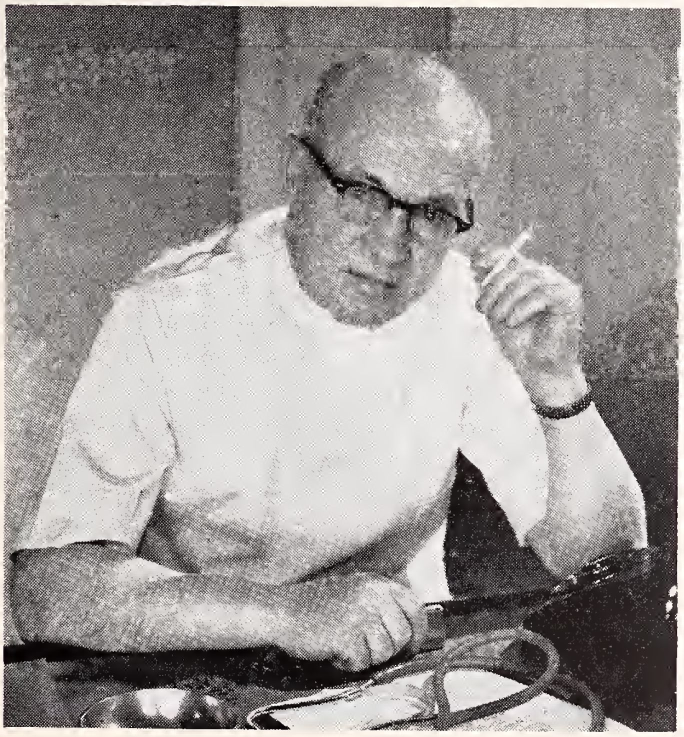

Everyone knows that doctors, occupied full-time with the care of others, very often ignore their own health and well-being.

Before you snort your impatience with this axiom—or deny it—let's look at some facts contained in a 13-year study of the estates of members of the Hartford County Medical Association. For one thing, the study showed that doctors between the ages of 41 and 50 die at a rate twice that of the general population; and that the death rate for doctors between 61 and 70 is half again as much as that shown in standard insurance mortality tables.

And that's not all. Think of the surviving family members. The survey did, and found that of the 144 deceased doctors included in the study:

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Membership Report of the Secretary

FAIRFIELD COUNTY

Membership—January 1, 1959			838
New Members		47	
Less:			
Deaths	9		
Resignations, transfers	14		
Non-payment dues, etc.	5	28	
	—	—	
Net Gain		19	
Membership—December 31, 1959			857

HARTFORD COUNTY

Membership—January 1, 1959			997
New Members		38	
Less:			
Deaths	11		
Resignations, transfers	15		
Non-payment dues, etc.	1	27	
	—	—	
Net Gain		11	
Membership—December 31, 1959			1008

LITCHFIELD COUNTY

Membership—January 1, 1959			133
New Members		3	
Less:			
Deaths	3		
Resignations, transfers	3		
Non-payment dues, etc.	1	7	
	—	—	
Net Loss		4	
Membership—December 31, 1959			129

MIDDLESEX COUNTY

Membership—January 1, 1959			117
New Members		8	
Less:			
Deaths	0		
Resignations, transfers	4		
Non-payment dues, etc.	2	6	
	—	—	
Net Gain		2	
Membership—December 31, 1959			119

NEW HAVEN COUNTY

Membership—January 1, 1959			886
New Members		34	
Less:			
Deaths	11		
Resignations, transfers	12		
Non-payment dues, etc.	8	31	
	—	—	
Net Gain		3	
Membership—December 31, 1959			889

NEW LONDON COUNTY

Membership—January 1, 1959			170
New Members		5	
Less:			
Deaths	1		
Resignations, transfers	3		
Non-payment dues, etc.	1	5	
	—	—	
Net Gain		0	
Membership—December 31, 1959			170

TOLLAND COUNTY

Membership—January 1, 1959			22
New Members		2	
Less:			
Deaths	2		
Resignations, transfers	0		
Non-payment dues, etc.	0	2	
	—	—	
Net Gain		0	
Membership—December 31, 1959			22

WINDHAM COUNTY

Membership—January 1, 1959			65
New Members		5	
Less:			
Deaths	0		
Resignations, transfers	3		
Non-payment dues, etc	1	4	
	—	—	
Net Gain		1	
Membership—December 31, 1959			66

ASSOCIATE MEMBERS		11	
New Members		2	
Less Deaths		0	
		—	
Associate Members—December 31, 1959		13	
Total Society Membership—January 1, 1959			3228
New Members			142
			——
Total Membership—December 31, 1959			3370
Less:			
Deaths	37		
Resignations, transfers	54		
Non-payment dues, etc.	19		110
	—		——
Total Society Membership—December 31, 1959			3260
Net gain for year	32		

TOTALS

Fairfield	857
Hartford	1008
Litchfield	129

Middlesex	119
New Haven	889
New London	170
Tolland	22
Windham	66
	3260
Associate Members	13
	3273

New Members

HARTFORD COUNTY
Robert D. Breer, Manchester
Geoffrey M. Coley, West Hartford
George Dorfman, New Britain
Donald W. Drew, Hartford
Franklin M. Foote, Hartford
Theodore W. Fox, Bloomfield
Richard M. McGuane, Thompsonville
John D. Murphy, Hartford
Henry C. Rogers, Simsbury
William D. Ryan, Hartford
Myron E. Shafer, Hartford
Raymond Veeder, Hartford

LITCHFIELD COUNTY
Virginia L. Dolan, Torrington
George M. Laning, Sharon
Ill L. Yoon, Winsted

NEW HAVEN COUNTY
Abraham E. Alpert, West Haven
Horst N. Bertram, Derby
Bertrand P. Bisson, Waterbury
Pedro O. Bonadero, Waterbury
John R. Chittum, New Haven
Richard H. Greenspan, New Haven
Richard U. Hausknecht, New Haven
Robert K. Houlihan, West Haven
Francis J. Hyland, Milford
Samuel J. Janet, Orange
Dalton L. Kinsella, Jr., Waterbury
Jocelyn S. Malkin, New Haven
Mahmood Mirkhani, Cheshire
Fernando P. Nanni, Waterbury
Patrick T. O'Regan, Meriden
Ulrich K. Rathey, Wallingford
Pasquale W. Santagata, New Haven
Vicente Tormo, Waterbury
Joseph J. Ventimiglia, West Haven
Harold Stern, New Haven

NEW LONDON COUNTY
Edward W. Allen, Old Lyme
William F. Byrnes, New London
David C. Cavicke, New London
Pasquale J. Costa, Jewett City
Zannis S. Kalamboukis, Norwich
Peter A. Rinaudo, Norwich
Horst D. Scholz, New London

Correction

It has been pointed out to the General Manager that in the published minutes of the Council meeting of January 27, 1960, (March 1960 issue) the following notation is in error:

"It was therefore VOTED that the January 27, 1960 special meeting of the House of Delegates be held in Executive Session from beginning to end and it was further VOTED not to exclude members of the Society from attendance."

An error is acknowledged and will be brought to the attention of the Council at its next meeting. This item should have read: It was VOTED *to recommend to the House* that the special meeting be held in Executive Session.

Further, it can safely be said that there was certainly no intent to exclude from attendance the lay executive secretaries, public relations directors or other persons employed by the state or county organizations.

Malpractice Insurance Rates

The following letter and table was furnished to this office by the Paul H. Taylor Agency of New Haven, Connecticut, in regard to the rising cost of malpractice insurance. It is believed that this information may be of interest to many members of the Society.

Dr. William Richards, Executive Secretary
Connecticut State Medical Society
160 St. Ronan Street
New Haven, Connecticut

Dear Dr. Richards:

In regard to the recent increase in Malpractice Insurance rates, I am sorry I was unable to write to you sooner; however, we were anxious to obtain some additional information from the Aetna.

The basic rate for physicians has gone up $1.00 and I am sure you will have no particular inquiries concerning this.

In respect to the increase in the surgeons' rate, during the past five year period the total loss ratio in the State of Connecticut for surgeons has been 60 per cent while the comparable permissible loss ratio was 47 per cent thus an increase in the surgeons' rates was definitely needed.

During the past year there have been some serious damage suits brought against surgeons and in particular during the last three months of 1959 during which time right here in the New Haven area there was a phenomenal jump in the amount of claims.

Surgeons rates have increased countrywide and for your information I am enclosing an exhibit which we received from the Aetna.

We trust this information will be of help to you in answering any questions by members of your Society regarding the increased rates.

Very truly yours,
PAUL H. TAYLOR AGENCY

PHYSICIANS

	SEPT. 1952	MAY 1954	OCT. 1956	DEC. 1959	% INCREASE OVER 1952	
Connecticut	25	30	28	29	16%	
Massachusetts	25	35	39	42	68%	
Rhode Island	30	30	35	26	13%	(minus)
New Hampshire	25	25	34	28	12%	
Maine	30	45	49	49	63%	
Vermont	30	40	34	25	16%	(minus)
SURGEONS						
Connecticut	38	45	49	70	84%	
Massachusetts	38	53	68	101	266%	
Rhode Island	45	45	61	62	38%	
New Hampshire	38	38	60	67	76%	
Maine	45	68	86	118	162%	
Vermont	45	60	60	60	33%	

Meetings Held in May

4 Advisory Committee on Nutrition.
Joint Conference Committee with Conn. Pharmaceutical Assoc.

11 Committee on Perinatal Mortality and Morbidity

18 Committe on Accident Prevention

PLACEMENT WANTED

The Society's Placement Service is in receipt of the following:

Julio N. Coelho, age 36 yrs.—M.D. Lisbon Medical School, Portugal 1949—Interested in Institutional or Private practice—Specialty General Surgery.

ANY MEMBER OF THE SOCIETY KNOWING OF OPPORTUNITIES FOR PLACEMENT OF THIS PHYSICIAN IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

Operations For Duodenal Ulcer

"The mortality following surgery for duodenal ulcer is our major concern at present," according to Dr. J. Lynwood Herrington, Jr. In the control of surgical complications, radical subtotal gastrectomy—which has proved its usefulness—is being challenged by more moderate procedures, equally or more effective.

In use for a decade, bilateral subdiaphragmatic vagotomy combined with a conservative resection of the distal portion of the stomach has resulted in an "astoundingly low" recurrence rate—13 recurrences following surgery in 3,052 patients, a great number of whom have been followed for more than five years. However, the mortality attending this combined operation—between two and three per cent—is about the same as mortality following adequate subtotal resection.

Most important is the selection of the proper operation for the particular needs of the individual patient.

Although the experienced surgeon will achieve low morbidity and mortality in most cases of duodenal ulcer by employing vagotomy and antral resection, the use of more conservative procedures, such as gastroenterostomy and pyloroplasty, would prove wiser in various instances.

"Vagotomy with a drainage procedure is, perhaps, the operation of choice when confronted with the elderly poor-risk patient with coexisting renal, cardiac, or generalized vascular disease." This procedure may also prove to be of greater value in young and middle-age patients who present a large, adherent inflammatory duodenal ulcer, even if it is known that a recurrence may take place. Risk of recurrence would have to be balanced against risk of death.

In any case, radical subtotal resection is being seriously challenged by the combined procedures of vagotomy and antral resection, which seem to have done better in controlling complications of duodenal ulcer. *(Surgery 47:497, March, 1960.)*

Doctors, too, like "Premarin"®

The doctor's room in the hospital is used for a variety of reasons. Most any morning, you will find the internist talking with the surgeon, the resident discussing a case with the gynecologist, or the pediatrician in for a cigarette. It's sort of a club, this room, and it's a good place to get the low-down on "Premarin" therapy.

If you listen, you'll learn not only that doctors like "Premarin," but *why* they like it.

The reasons are fairly simple. Doctors like "Premarin," in the first place, because it really relieves the symptoms of the menopause. It doesn't just mask them – it replaces what the patient lacks – natural estrogen. Furthermore, if the patient is suffering from headache, insomnia, and arthritic-like symptoms due to estrogen deficiency, "Premarin" takes care of that, too.

"Premarin," conjugated estrogens (equine), is available as tablets and liquid, and also in combination with meprobamate or methyltestosterone.

Ayerst Laboratories • New York 16, N. Y. • Montreal, Canada

Clinical Medicine

IMPORTANT DETAILS IN THE MANAGEMENT OF FRACTURES OF THE DISTAL RADIUS

William E. Kenney, M.D.*
Fall River, Massachusetts

Attention to detail in treatment is desirable under most circumstances in medicine. However in orthopaedics attention to detail is of the utmost importance since excellence or mediocrity of the functional results often hinges upon the aggregate of the minutiae. This fact is particularly well illustrated in the management of fractures of the distal radius, and although the discussion will concern such fractures, nevertheless, the emphasis will be placed upon the small points in treatment which are too frequently ignored. Fractures of the distal radius are common enough to engender an ill-deserved feeling of contempt for them by some physicians and a feeling of security unwarranted by the results.

Anatomical Angles

Those who undertake the treatment of fractures of the radius should understand certain important anatomical angles present at the wrist. The articular surface of the radius is inclined volarward by about 15° on the average. The radial styloid extends distal to the ulnar styloid in such a way that an angle of 25° on the average is created. Both of these inclinations are of exceeding importance to the function and power of the hand. Normally the hand is swung naturally and subconsciously into a certain degree of ulnar deviation in order to grasp efficiently and with power. If a hand even of normal strength is held passively in radial deviation, grasp becomes appreciably weaker. Therefore reduction of a fracture should aim at reconstitution of the normal volar and ulnar direction of the radial articular surface.

It should furthermore be kept in mind that during pronation and supination of the forearm, motion occurs at the distal radio-ulnar joint. The x-ray should be reviewed with the integrity of the distal radio-ulnar joint in mind. One of the common complaints upon the part of the patients recovering from fractures of the distal radius involves pain at the distal radio-ulnar joint particularly upon pronation or supination. The disability may be sufficient to warrant operative resection of the ulnar styloid. Hence the physician should note that following reduction, the ulnar styloid appears on the x-ray in normal relationship to the radius and is subluxated neither dorsally nor ventrally.

In general patients sustain the injury in such a way that the distal radius is displaced dorsally in relation to the proximal fragment. The wrist joint composed of the carpal bones is carried dorsally with the distal fragment. The articular surface is now inclined upward and backward instead of facing volarward. The hand is swung into radial deviation as the normal ulnar direction of the articular surface is lost. The relationship between the distal radius and ulnar styloid is disturbed. Clinically, besides pain and swelling just proximal to the wrist joint, (carpal area), a dorsal deformity is usually obvious to inspection and readily discernable by palpation over the distal radius. The hand is clearly deviated to the radial side, especially when compared with the normal extremity. The region of the ulnar styloid is noted as unusually prominent.

Types of Fractures

Several types of fractures are encountered. In children fracture through the epiphyseal plate with or without displacement of the distal radial epiphysis occurs. Also in children the incomplete fractures of the greenstick and the infraction type are seen. In adults the fracture is usually simple and can be undisplaced and unassociated with fracture of the ulnar styloid. More commonly however, the distal fragment is dorsally displaced and is associated with an avulsion type fracture of the ulnar styloid. Infrequently the distal radial fragment is displaced volarward as the so-called "reverse colles" or Smith's fracture. At times dorsal subluxation of the carpus on the distal radius is associated with a small avulsed fragment from the dorsal surface of the radius, (the main articular area of the radius remaining intact), known as Barton's fracture. A last type is a comminuted intra-articular fracture of the distal radius which may pose special problems.

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* Orthopaedic Surgeon, Truesdale Hospital, Fall River, Massachusetts.

Types may be listed as:

(1) Fractures through epiphyseal plate, with or without displacement.

(2) Infraction and greenstick types.

(3) Fracture with or without dorsal displacement and with an avulsion fracture from the ulnar styloid.

(4) Fracture with volar displacement, (Reverse colles or Smith's).

(5) Barton's fracture.

(6) Comminuted intra-articular and displaced fractures.

Reduction

If no displacement or alteration of normal anatomical angulations exist, no reduction is, of course, needed. Simply applying a cast is sufficient. In the ordinary fracture, reduction is needed more often than not. At this point, the specific details of the manipulation should be stressed. It is usually futile to attempt reduction by grasping the patient's hand and pulling on it more or less aimlessly in the hope that by chance the two fragments will assume their proper position. Likewise, grasping the patient at the carpus will ordinarily fail to gain reduction regardless of the contortions through which the operator may put the metacarpals and the phalanges. Good control of the situation can be gained by grasping the distal fragment itself, and not the carpus, the hand, not the fingers. The operator should be able to reduce most fractures by using only six of his fingers, i.e., the thumb, index, and middle fingers of each hand. The physician should grasp the distal fragment by placing his thumb on the dorsum of the fragment and his index and middle fingers on the volar aspect. The proximal fragment is grasped in an analagous manner. The deformity is then increased by dorsally displacing the distal fragment. Next the fragment is strongly moved distally and flexed into the position of reduction. These steps of dorsal displacement, traction in the line of the radius, and flexion, are carried out in one continuous sweeping motion and not in a halting or interrupted fashion. While the operator's one hand has been so engaged with the patient's distal fragment, the other hand has been used to stabilize the proximal fragment. After the manipulation the physician should try to ascertain that reduction has been accomplished before the cast is applied. If good position obtains, the hand and wrist will flex passively and easily to the same degree as that of the normal side. Palpation of the dorsum of the radius will show that the pre-operative deformity is absent. Palpation of the radial and ulnar styloids will show the reconstitution of the normal radial advancement. The appearance of radial deviation of the hand, (abnormal), will have disappeared. While on the subject of the reduction, it may be well to mention that some do not consider it either feasible or necessary to reduce an infraction in a child. It may be that such deformities will correct themselves by growth, but I prefer to reduce the infractions initially rather than to trust that a good result will eventually be forthcoming. With regard to fractures through the epiphyseal plate with displacement of the epiphysis, the general principle holds that excellent reposition of fragments should be obtained. Later, progressive deformity may develop as an epiphysis grows which has been inadequately replaced. Some evidence exists that the epiphysis will grow into the corrected position even when reduction is incomplete. On the other hand, the operator who stresses good reposition of the epiphysis need not remain so long in doubt as the operator who awaits correction by growth.

The Cast

Following the reduction of the fracture, a cast should be applied. Casts may be of two types. One is circular and is applied from the metacarpo-phalangeal joints upward to just below the elbow. The other is the so-called sugar-tongs cast which is fashioned when wet as a long splint. It starts on the volar aspect of the palm at the metacarpo-phalangeal joints, extends proximally along the volar aspect of the forearm around the elbow posteriorly, and then distally again on the dorsum of the forearm to end at the metacarpo-phalangeal joints. Thus, the shape of the cast is like the silver tongs used to pick up lumps of sugar. I prefer the sugar-tongs cast to the circular cast for several reasons: (1) The sugar-tongs cast can be applied to the extremity rapidly in one motion while an assistant holds the fragments. Hence there is less need for repetitive changes in holding position by the assistant under this circumstance than there is when layer upon layer of plaster is rolled over the fracture site as in the application of a circular cast. Thus there is less chance of loss of position during cast application. (2) During the acute phase when swelling may interfere with circulation beneath the cast, it is very easy to spread the dorsal from the volar limbs of a sugar-tongs cast enough to improve circulation and yet not jeopardize position. If a circular cast has been used, then bi-valving with risk of loss of position must be done for the sake of blood supply. (3) A circular cast extending to just below the elbow allows considerable pronation and supination of the forearm which will be reflected as motion of the distal radio-ulnar joint during healing. In my opinion such a situation may lead to faulty healing of the soft-tissue structures at the distal radio-ulnar articulation with subsequent pain at this site. The sugar-tongs cast prevents pronation and supination. (4) Furthermore, during the four or five weeks while immobilization is continued, if a sugar-tongs cast has been used, it is a simple matter to elevate the dorsal limb of the cast and inspect and gently palpate the wrist. In this way any beginning loss of position can be quickly detected and remedied. Let us assume that a sugar-tongs cast is to be used.

Immediately following reduction, position is held by an assistant while the cast is applied. While the cast is drying the operator should mould the cast so that the wrist is held in moderate flexion and in a fair degree of ulnar deviation. Care should be exercised to maintain mid-position with regard to pronation and supination. While attempting to hold the wrist flexed and deviated, it is only too easy to twist the wrist so that the eventual position is *pronation*, flexion, and ulnar deviation. Such a mechanical situation may rotate the distal fragment on the longitudinal axis of the proximal fragment. The cast holding the hand in flexion and in ulnar deviation has several purposes. The tendency to deformity is actively combatted, the tendency to deformity being dorsal displacement and radial deviation. The normal angles of volar inclination and ulnar inclination are reconstituted by the reduction and are maintained by the cast. If adequate ulnar deviation of the cast is not employed, one may note upon cast removal that the hand is swung into radial deviation, (even assuming no absorption of bone on the radial aspect). Such a position disables the hand and it may be difficult to correct by exercises and stretching. Furthermore, if ulnar deviation of the cast has been insufficient, the distal fragment may gradually swing into radial deviation and heal there with an attendant absorption or collapse of bone on the radial aspect of the radius. The functional result is then less than it could have been.

If sufficient flexion of the cast is not used, then the distal fragment may slip dorsally or the articular surface may tilt dorsally. The result is a loss of flexion at the wrist. Acute flexion is not advised either, since difficulty in gaining normal dorsiflexion may then result either because the articular surface has been angulated too far volar-ward or because a contracture of soft tissues has resulted.

While the cast is setting, it is trimmed to allow motion of the thumb and fingers. This step is one of the most vital for later function of the hand. The trimming is done on the palmar aspect to allow complete flexion of the metacarpo-phalangeal joints and simultaneous flexion of both the proximal and distal interphalangeal joints. The common error is to extend the cast distally to the level of the web between the fingers. A cast as long as this very effectively precludes motion at the metacarpo-phalangeal joints. Stiffness at these joints interferes with function of the hand rather profoundly. The operator should trim the cast back to a position where he is able to flex the patient's fingers completely at all three joints simultaneously. Many times the cast will not extend beyond the *proximal* palmar crease. Attention should then be directed to the thumb. The cast should be trimmed away from the thenar eminence in such a way as to allow the thumb to be placed passively into opposition with the index and middle finger tips. The importance of maintaining good and free opposition of the thumb is self-evident. To recapitulate the points regarding the cast and its application: A sugar-tongs cast is preferred; mid-position between supination and pronation is used; moderate flexion of the wrist and moderate to marked ulnar deviation is advisable; care being taken not to rotate the distal fragment into pronation; and trimming is done to allow complete finger flexion and a good degree of opposition by the thumb.

The Sling

A sling properly applied can be a benefit and a comfort to a patient, while one not so applied is a little better than worthless. The outer leaf of the sling should pass over the unaffected shoulder. If this is done the hand is elevated slightly above the level of the elbow and the fingers are not so likely to become edematous from dependency. The edge of the sling should be far enough distal on the hand to prevent the fingers from hanging out and downward, again to avoid the edema of dependency. At the elbow the sling should be folded on itself, tucked in, and pinned rather snugly so as to form a pocket for the elbow which gently lifts the arm upward. The patients notice the added comfort. Behind the neck the sling should be fastened to itself by means of one or two safety pins and not tied in a knot. Knots shortly cause a painful red pressure area. The neck can be protected as well as by a pad of felt if desired.

Exercises During Immobilization

The patient should be urged most strenuously to engage in finger exercises starting the day after fracture and continuing until cast removal. These exercises consist of flexing the metacarpophalangeal joints, and the interphalangeal joints of the fingers completely. In the beginning patients are likely to move the fingers through an arc of only 15° to 30° at the metacarpophalangeal joints while holding the fingers rigidly extended. The physician should correct the patient and teach him exactly what is expected of him and show how to flex the three joints simultaneously and completely. It is my opinion that almost more of the success of treatment depends upon proper cast trimming and upon insistence on proper finger exercises while in the cast, than it does upon the adequacy of the reduction and the immobilization. Thus the patient should do exercises of flexion, extension, abduction, and adduction of the fingers, and opposition of the thumb several times each day during the five weeks of immobilization.

Edema

Exercises not only combat joints stiffness, but also are one of the major factors in reducing the post-traumatic edema. Those patients who do not exercise their fingers usually show considerable swelling, and almost surely will have more or less disability from stiffness. However, sometimes it is noted that neither the avoidance of the dependent position nor exercises prevent edema. Since persistent edema usually presages a poor result, every effort should be made to bring it under control without undue delay. A cervical sympathetic block often will wipe out all swelling when both elevation and finger exercises have failed.

X-Rays

The use of x-rays is of course so routine that they have not been discussed so far. It goes without saying that x-rays are taken before anything other than emergency splinting is done. It furthermore is understood that x-rays are taken after the reduction has been accomplished, and a cast applied. At any time in the convalescent period if the physician has a specific reason for so doing, x-rays should be taken. For example, during a routine follow-up visit the doctor might be disturbed by believing he can palpate a lump on the dorsum of the radius possibly indicating a dorsal slipping of the fragment. On the other hand, the physician may be of the opinion that to inspection some degree of radial deviation is appearing. A complaint of continued pain on the part of the patient is an excellent reason for repeating the x-rays. Super-imposed trauma to an arm already encased in plaster should indicate further x-rays. Frequently the physician will take x-rays as a routine upon removal of the cast. The doctor may be mislead by x-rays at this time since he may believe that healing is not complete. It should be emphasized that no great amount of callus will be seen. Non-union of fractures of the distal radius are rarely, if ever, encountered. The wrist is not a weight bearing joint and needs motion more urgently than complete solidity of union. The degree of actual consolidation may be greater than one would be led to believe by examining x-rays. Hence, if roentgenograms are taken upon cast removal, the physician should not make the mistake of reapplying immobilization for several more weeks unnecessarily.

Comminuted Intra-Articular Fractures

A special problem may be met when dealing with the comminuted intra-articular fractures of the distal radius. Such fractures tend to be unstable after reduction and tend to slip even when well immobilized after an excellent reduction. Absorption of bone on the lateral aspect of the radius is likely to occur and the hand, therefore, gradually shifts into the deformity of radial deviation. Weak grasp of the hand results. Therefore, it is advisable to deal with the acute fracture differently than by manipulative reduction and sugar-tongs cast. Initially a Kirschner wire can be introduced through the second metacarpal and into the third metacarpal, extending transverse to both and allowed to protrude through the skin. The fracture is then reduced by moulding the various fragments of the distal radius into flexion and ulnar deviation. An assistant then exerts a continuous and strong traction distally upon the protruding portion of the Kirschner wire. Such traction effectively maintains ulnar deviation of the wrist, provided that counter-traction is likewise maintained just above the elbow. A circular cast is then applied from just below the elbow distally over the wrist and metacarpals incorporating the protruding part of the wire. After the cast hardens, it will be found that the wire holds the metacarpals, carpals, and fragmented disal radius steadily in the reduced position. Radial deviation and bone absorption is not likely to ensue. Instead of five weeks of immobilization six weeks are used.

Upon Cast Removal

In children the cast may be removed in four weeks from injury.

In adults the cast is usually left on for five weeks.

In comminuted intra-articular fractures six weeks of immobilization are used.

When the cast is first removed the joints feel rather stiff and unpleasant. The skin is inelastic and has several layers of dead skin piled upon itself. The muscles are atrophic. The patient is advised to soak the arm in water, pleasantly warm. After soaking, the part is dried by patting with a turkish towel and not by rubbing, since rubbing may remove too much old skin and leave the underlying area raw and sore. After drying, an emmollient is rubbed into the part. Olive oil, cold cream, vaseline, baby oil, cocoa butter, may all be used. In this way the skin rapidly becomes pliable and seems to relieve the patient of some of the sensation of stiffness. Oiling can usually be discontinued after 2-3 days. In the first few days after the cast is removed the patient should gradually do without the sling. The patient may use the sling for two hours and alternately discard and reapply it at two hourly intervals. In a few days the sling will not be needed. If the sling is discontinued abruptly, the patient will have considerable aching discomfort and the hand may swell to a rather disconcerting degree due simply to dependent edema.

Physical Therapy

In obtaining optimum results, adequate and intelligently applied physical therapy rivals in importance both the adequacy of the reduction and the finger exercises carried out by the patient while encased in plaster. Unfortunately many physicians do not clearly understand either the potentials, limitations, or necessary prescription of physical therapy as applied to the after care of fractures of the distal radius. From a professional standpoint, the therapist must have a prescription from the physician just as a pharmacist does. The therapist knows the modalities which are most likely to be successful, yet he would be considered presumptuous if he carried out procedures other than those specifically ordered.

The ensuing group of therapeutic procedures is one which will prove effective in the routine case. Whirlpool is administered. The purposes are several. The temperature of 120° F. itself gives comfort to the patient, but also the muscles and ligaments become more relaxed and pliable. Therefore, a greater range of motion passively can be carried out immediately afterward than is possible without the application of the heat. Furthermore the whirling action of the water gives gentle passive motion to the affective joints and the patient rapidly gains the confidence to undertake active motions of the wrist and fingers himself. Usually about 20 mins. are spent in the whirlpool. The therapist then proceeds to massage the fingers, hand, wrist, and forearm. The purpose of the massage is to push any edema fluid proximal to the wrist into the forearm. Massage is repetitive, rather firm, and proceeds from distal to proximal, attention being given to each individual finger. After the massage, exercises are undertaken. These may be either active assistive, active, or active resistive. Active assistive means that the patient attempts to move the wrist and fingers in a given direction to his maximum capacity and the therapist aids the motion. Of course, as the patient gains power, active assistive exercises will not be needed. Many patients can be started directly on active exercises, by-passing active assistive. Active exercises are done to increase range and power. Bouncing putty is an excellent method. By squeezing repetitively the patient gains power in finger flexion and by rolling the putty between the two hands, extension of the wrist joint is initiated. As power and range increase the therapist resists the active motion of the patient in each direction, that is, the exercise is active resistive. In addition to exercises, the patient may need stretching of the joints. Such stretching is firm, it is neither rough nor violent but it is of sufficient power to move the joint further than the patient can move it unaided.

Thus at one treatment session the patient gets whirlpool, massage, and active exercises of some type—the exact choice at any given time being up to the therapist—and perhaps stretching as well. The therapist will see to it that all components of motion and power are considered. These are flexion, extension, radial deviation, ulnar deviation, and circumduction of the wrist as well as pronation and supination of the forearm, and all finger the thumb motions. Therefore a simple and logical prescription to the therapist should read. (1) Diagnosis: Fracture, distal radius. (2) Whirlpool, massage, active graded through active resistive exercises to fingers and wrist. (3) Treatment: 3-4 times a week for two weeks and return. The attending physician re-examines the patient after two weeks of physical therapy. In the average case the patient is at that time in a position to proceed with his own exercises at home without further aid from the therapist, yet the future course is a matter for the physician's judgement. It should be pointed out that seven weeks have now passed since the fracture was sustained—five in plaster and two at physical therapy. It should also be clear that children as a rule do not need physical therapy, but that adults ordinarily do require it. In addition to the physical therapy and during the two weeks directly following removal of the cast the patient should also carry out his own exercises at home. The patient is advised to set aside one-half to three quarters of an hour once or twice a day in which to soak the wrist in warm water for 15-20 minutes, carrying out all types of motion in the water. For the remainder of the allotted time he should systematically carry out active motions of the fingers and wrist, preferably with bouncing putty. He can be taught to press his hand firmly against a table or a door to aid dorsiflexion of the wrist etc. The patients who are simultaneously on a home program and on physical therapy quickly learn to imitate the motions carried out by the therapist. The adults who are not given physical therapy and who are simply told to soak the wrist and exercise it either will not do so, cannot do so, or do not know how to do so, since two weeks later they will show precious little improvement.

Complications and Their Treatment

(1) *Mal-union:*

Mal-union may occur in several different ways for varying reasons. Reduction may be incomplete initially so that the distal fragment remains dorsally displaced somewhat. The articular surface may either face directly at right angles to the radial shaft or may even be tilted dorsally instead of facing volar-ward by the normal 15°. In such a situation it will usually also be found that the styloid angle has not been reconstituted and therefore the hand is swung into radial deviation. As a corollary, the ulnar styloid protrudes prominently. Essentially this same position of mal-union may result if the fragments slip even though reduction has been good. A similar position of mal-union results if there is absorption and collapse of bone on the radial aspect of the radius, except that dorsal displacement and/or tilt is not likely to be present. Such absorption and collapse may occur regardless of the adequacy of the reduction. Clinical examination of the mal-union reveals radial deviation at the carpus, and a loss of active ulnar deviation of the hand. Normal palmar flexion is lost. Pronation and supination are limited by virtue of pain at the distal radio-ulnar joint and probably also because of the mechanical abnormality at this site associated with the mal-union. Grasp is weak. The functional disability is great enough to warrant correction which can be done operatively. One or several procedures are available. Resection of the distal ulna including the styloid may be sufficient. When the styloid has been removed, the carpus tends to assume its normal position relative to the radial articular surface and thus active ulnar deviation is obtained. At the same time the ugly prominence of the styloid has disappeared, radial deviation has gone as well.

At times resection of the distal ulna is not sufficient, that is, there is too much dorsal displacement or tilt and resecting the ulna will of course not remedy these difficulties. Osteotomy of the mal-union can be carried out and the fragment angulated the proper number of degrees volarward. Usually resection of the ulnar styloid will also have to be carried out.

In general then, resection of the distal ulna and its styloid process corrects the radial deviation and the loss of pronation and supination, while osteotomy of the radius corrects the dorsal displacement and tilt of the radial articular surface thus aiding flexion and extension. Either or both of these procedures can be done depending upon the operator's evaluation of the situation.

(2) *Joint stiffness:*

Even the best reduction of a fracture of the distal radius can be done and the functional result be a failure when sufficient joint stiffness supervenes. In my opinion the joint losses which affect the result in order of their importance are: (1) the metacarpo-phalangeal joints, (2) the interphalangeal joints, and (3) the wrist joint. In other words excellent motion at the wrist is valueless if the metacarpo-phalangeal joints become stiffened. Yet also, if the interphalangeal joints are stiff, the end result will be poor even with perfect motion at the wrist and at the metacarpo-phalangeal joints. Treatment of stiffness at the metacarpo-phalangeal and interphalangeal joints is difficult and surgical procedures are, in general, unrewarding. Prevention of the stiffness therefore becomes of the utmost importance. Prevention of stiffness has already been indicated as feasible by proper trimming of the cast, by insistence upon complete active exercises of the fingers all during the period of immobilization in the cast, and by the prevention and control of edema by avoiding the dependent position. However, if stiffness of joints has ensued, exercises with bouncing putty, active resistive exercises and stretching by the physical therapist, give some promise of improvement. When dealing with joint stiffness, treatment should include specific instructions to the patient with regard to the motions and ranges he should carry out. The patient should be taught to gain extension of the wrist by pressing on a table or a door with his palm while the elbow is extended. Pressing in a reverse manner will aid palmar flexion of the wrist. Pronation and supination are often neglected and should not be. The patient should hold his elbow closely to his side, flexing the forearm to right angles. Then by grasping a hammer and rotating it in an arc from side to side the weight of the hammer helps to increase the desired ranges. Radial and ulnar deviation should be practiced. With regard to finger exercises, the patient should repeatedly oppose the thumb to the tip of the fifth digit and attempt to flex the thumb to the base of the fifth digit. The same motion should be utilized between the thumb and each finger in turn. Attempts to gain a complete grasp should be made. One exercise that encompasses to some degree all the motions of wrist and hand is that of wringing out a bulky cloth under water.

(3) *Arthritis:*

Akin to joint stiffness is the complication of arthritis. Several types of arthritis may complicate, and to some degree compromise, the functional result. A patient may have had hypertrophic arthritis, rheumatoid arthritis, or both at the time of the injury. In such cases the patients often complain more of their arthritis than they did prior to the injury but whether this is due to injury to the arthritic joints or due to the limitations imposed by the immobilization is probably speculative. At any rate, after an arthritic hand has been removed from the cast special attention must be given to gaining finger motion. Often the arthritic fingers fail to attain the same ranges they enjoyed prior to the fracture even assuming they were limited before injury.

Another late complication of the fracture is post-traumatic arthritis. Under this circumstance hypertrophic changes arise at the articular surface of the radius due to years of use of a joint surface rendered incongruous by a comminuted intra-articular fracture, for example. Treatment in general for post-traumatic arthritis is arthrodesis of the wrist joint in a position of optimum function. Post-traumatic change of the radial articular surface does not occur often, however, because ordinarily the fracture does not extend into it. Difficulty is more often experienced because of derangement of the distal radio-ulnar joint and the associated region, and in turn, arthritis of this joint may develop.

(4) *Pain at distal radio-ulnar joint:*

Often following fractures of the distal radius, the patient complains of pain at the distal radio-ulnar joint even though healing has occurred in excellent position. Sometimes a point of tenderness can be found by palpation. If so, injection of the tender point with procaine or procaine and hydrocortisone on one or two occasions may relieve the condition. At other times the complaint and disability may be of such severity and longevity that resection of the distal ulna and styloid process should be done. It has often been said that such complaints on the part of the patient are due to non-union of fragments from the distal ulna. In my opinion, non-union of styloid fragments may exist more often without symptoms than with them. It is my opinion that derangement of the radio-ulnar joint and the degree of soft tissue or ligamentous damage in this area, (of which un-united fragments are simply one indication), and the adequacy of healing of the soft-tissue are the primary etiological factors.

(5) *Reflex sympathetic dystrophy:*

Persistent complaint of pain in the hand and a persistent hesitancy to move the fingers during the period of immobilization should cause the physician to ascertain first that the cast is not too tight and that circulation is perfectly unimpaired. Next, repeat x-rays should be obtained to determine that reduction is good and has not undergone any shift. The third consideration should be whether the patient is developing reflex sympathetic dystrophy. Many times suspicion of reflex sympathetic dystrophy is not aroused until after cast removal. Furthermore, it is not always easy to arrive at such a diagnosis. If the affected hand sweats more than the contra-lateral one, feels cooler than the normal, is of a slightly dusky color, and seems tender to touch and painful to move, not much doubt exists. However, it is frequently true that the physician cannot find such physical signs and is confronted simply by the problem of a painful hand which the patient will not move. A stellate ganglion block or a series of such blocks will usually give remarkable and rapid relief. The sooner such blocks are done the better, and even if the doctor is only suspicious of the presence of reflex sympathetic dystrophy he should have a block done and observe the course over the next 24-48 hrs. If relief of pain, decrease in swelling, and increase in finger range occurs for a 24 hr. period, then a series of repeated blocks should be carried out since only rarely will one block suffice to maintain comfort for a sustained period of time.

(6) *Associated fracture of the carpal scaphoid:*

Occasionally the carpal scaphoid bone may be fractured in association with a fracture of the distal radius. Treatment for a fractured carpal scaphoid occurring as an isolated injury is that of immobilization in plaster in cock-up of the wrist, whereas the position of immobilization of wrist fractures is that of palmar flexion. If the position of extension is used initially when both fractures co-exist, there is a high risk of loss of position of the distal radial fragment. Therefore the radial fracture should take precedence and the case immobilized in flexion. After four to five weeks the cast can be removed and a circular cast applied, the management then being as for a conventional fracture of the carpal scaphoid.

(7) *Premature fusion of the distal radial epiphysis:*

In cases of fracture through the epiphyseal plate, premature fusion of the epiphysis may occur either entirely or partially. As a result, one portion of the epiphysis may fuse and the remainder not. As growth proceeds, a deformity occurs around the fused area as a pivot. If the entire radial epiphysis fuses, the ulna may continue its growth and the hand will be thrown into radial deviation, the appearance as a whole resembling Madelung's deformity. Even excellent reduction is no preventative for this complication. The degree of injury to the growth cartilage is apparently the basis for whether premature fusion will or will not occur. It is well to advise the parents of the possibility of later deformity and to do so *before* manipulation of a fracture through the epiphyseal plate. The correction of the deformity, if it occurs, is operative and the specific procedure used will depend upon exactly what type of deformity is in question.

(8) *Rupture of the extensor pollicis longus:*

Fracture of the distal radius may heal with a certain degree of roughness on the lateral aspect. In time the tendon of the extensor pollicis longus may become frayed by attrition. The patient is unaware of pain or any other disturbance until quite suddenly the tendon ruptures and the patient finds he is unable to extend the distal phalanx of the thumb. The complication occurs very late after fracture of the distal radius and is rare.

Summary

In dealing with fractures of the distal radius an adequate reduction should be done using the technique of grasping the displaced fragment. Reconstitution of the normal angles of the articular surface and of the styloid processes should be the aim. The position should be one of moderate flexion of the wrist with moderate to marked ulnar deviation, care being taken to avoid pronation of the fragment. A sugar-tongs cast for 4-6 weeks should be used during which finger exercises should be insisted upon, and dependency should be avoided. Upon cast removal, physical therapy for two to three weeks in association with a home program of exercises is advised with specific instructions to both the therapist and the patient from the physician. During the entire time, constant watchfulness and attention to detail will produce better functional results. The complications of note are: malunion, joint stiffness; arthritis; pain at the distal radio-ulnar joint; reflex sympathetic dystrophy; associated fracture of the carpal scaphoid; premature fusion of the epiphysis; and rupture of the extensor pollicis longus. In filling out insurance forms the physician can estimate for total disability 8-10 weeks and partial disability 2-4 weeks thereafter.

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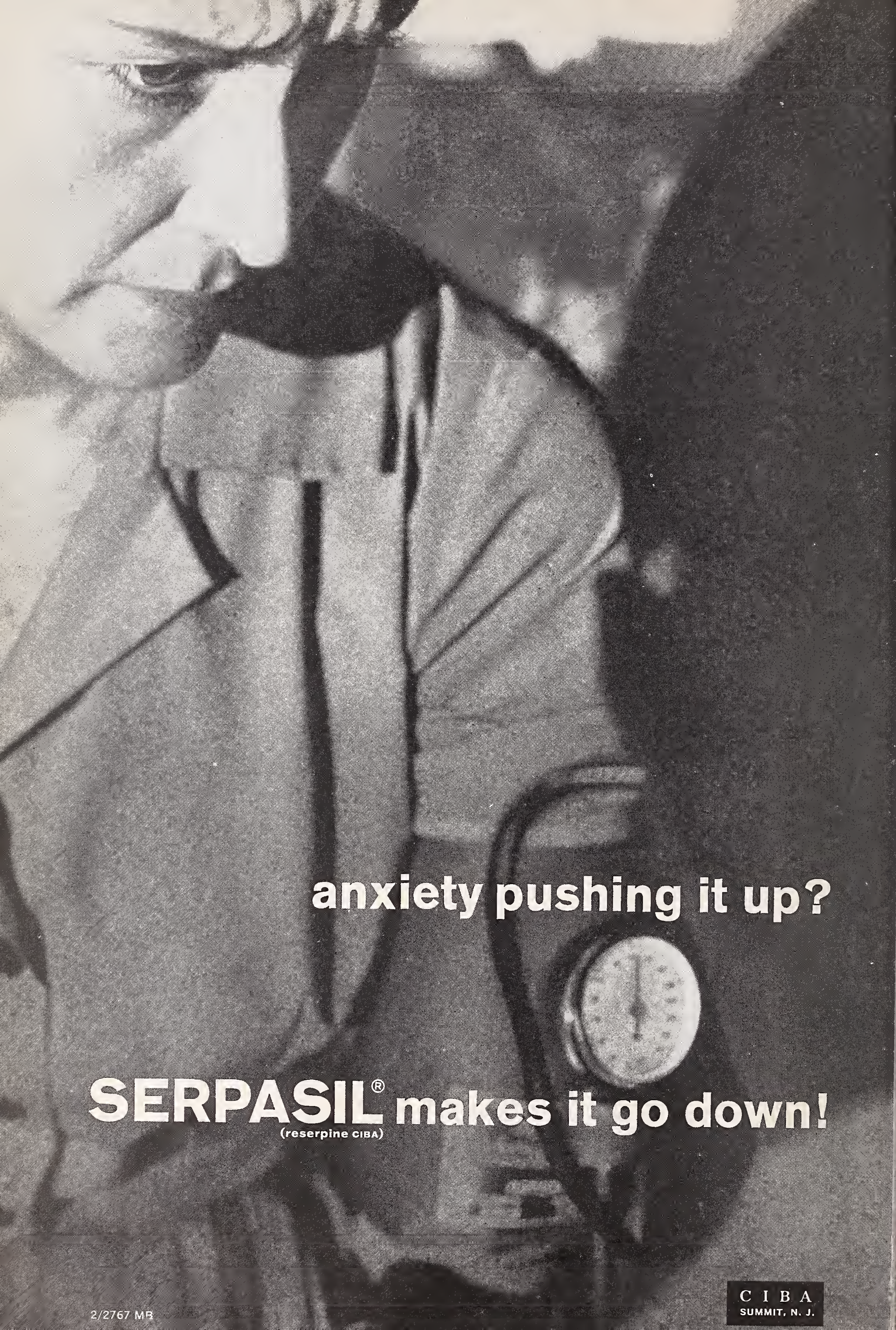
Influenza, 1960

While the vicinity of Hollywood recently was receiving the publicity, a fairly widespread epidemic of influenza was in progress throughout this country, accompanied by excessive rates of absenteeism from schools and industry. "The virus of influenza A_2 (Asian influenza) was identified in cases from nearly half the states and from multiple areas in some states."

It is not known whether the current strains are identical with those found in the epidemic of 1957, but there is reason to believe that "some subtle antigenic difference may be expected."

The current epidemic "cannot be considered unusually mild." Hospitals in Boston and elsewhere report the admission of large numbers of patients with severe pneumonias, many caused by the staphylococcus. "The excessive mortality from influenza and pneumonia reported by the large cities . . . was 15 per cent higher for the week ending January 26 and about 30 per cent higher in the following two weeks of this year than they were for the corresponding weeks of 1958 . . . and 37 per cent to nearly 100 per cent higher than in the same weeks of 1959."

The pandemic of 1957-1958 has been covered by hundreds of clinical and scientific papers, but still not enough is known "about the conditions that give rise to rapid spread of the disease, to occurrence of its many complications, including the severe pulmonary complications . . . ," and about management and prevention of influenza. In order to add to basic knowledge of these matters, the Surgeon General of the United States Public Health Service, through the National Institutes of Health, is encouraging research in all aspects of this disease. *(New England J. Med. 262:474, March 3, 1960.)*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Pathology Laboratory Notes

Need For Medical Technicians

The chronic shortage of skilled laboratory personnel is apparent to most physicians. We *do* need many more students in Medical Technology; abundant positions are open for the graduates at steadily improving salaries. We *do* have, through the A.S.C.P. Registry, an excellent method of testing and certifying the Technologists qualifications on a national non-political basis. We *do* need the support of every physician in telling young people about this field and in insisting on proper professional and financial recognition of the Technologists and other laboratory workers.

The basic necessary information for young people and their counsellors follows:

The backbone of the clinical laboratory is the Registered Medical Technologist (M. T., ASCP) whose training is as follows:

A. A minimum of two years of accredited college work (three years will be required for students starting after Jan. 1, 1962), and including the following courses:

1. 12 Semester hours of biology
2. 6 semester hours of inorganic chemistry
3. 3 semester hours of quantitative, organic or biochemistry.

B. A minimum of one year in a Hospital-affiliated School of Medical Technology approved by the Council on Medical Education and Hospitals of the American Medical Association. These schools are directed by qualified pathologists and staffed by at least one Registered Medical Technologist for each two students. The curriculum includes biochemistry, hematology, bacteriology, parasitology, histologic techniques, serology, urinalysis, blood banking, basal metabolism and clinical microscopy. Electrocardiographic techniques and the use of diagnostic radioisotopes are often included.

Eleven Connecticut Hospitals conduct approved schools. These are Hartford, St. Francis, Middlesex, New Britain, Grace-New Haven, St. Raphael's, Norwalk, St. Joseph's, Stamford, St. Mary's and Waterbury. About 60 students can be accommodated but only about 40 are enrolled most years.

Many of the approved schools are affiliated with the University of Connecticut, Quinnipiac College in Hamden or other colleges in offering a degree course leading to a B.S. in Medical Technology after four years. Most of the Hospital Schools charge no tuition and many provide scholarship assistance including room and board for qualified students.

The graduates must pass a national examination in all fields before securing their M.T. (ASCP). In addition to their well-rounded education they are pledged to certain ethical principles including working only under the supervision of a physician.

Non-registered Technicians are widely employed to fill many laboratory positions of assorted degrees of responsibility. They have received apprentice training of varying quality in hospitals, military services or elsewhere. Few laboratories could meet the present demands without using such persons, many of whom are highly skilled. Unfortunately the Connecticut statutes permit them to conduct laboratories without supervision by physicians.

Another category of growing importance includes the specially trained scientists who have advanced training and education in such fields as Cystology, Bacteriology, Clinical Chemistry, etc. They bring a new dimension to their field, supplementing the technical proficiency of the technologists and the medical background of the physician.

Regardless of the competence of the laboratory personnel the final responsibility is assumed by the certified Pathologist who combines general medical knowledge and ethical background with specific technical training. The professional organizations of pathologists have recently taken much greater cognizance of the quality of laboratory performance by fostering Quality Control Programs and sending out "unknowns" for analysis.

The Pathologists can only provide your patients with good service if they can employ good staffs; you can help.

New Booklet on Inborn Heart Defects Published as Guide to Parents

A new booklet, "If Your Child Has a Congenital Heart Defect," suitable for distribution by physicians to parents of patients with operable cardiac defects, has been published by the American Heart Association and its affiliates.

The 48-page, illustrated volume is designed to prepare parents for the events that may follow a preliminary diagnosis of congenital heart disease in their child, including additional diagnostic tests, hospitalization, surgery, convalescence at home and the transition to normal living. It also describes sources of community help in obtaining medical and surgical care for congenital heart patients. It is obtainable from local Heart Associations or from the Connecticut Heart Association, 65 Wethersfield Avenue, Hartford, Connecticut.

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Around The State

Dr. Foote Appointed Commissioner of Health

Major Morton N. Katz, Commanding Officer 411th Civil Affairs Company (left) congratulates Lt. Col. Franklin M. Foote on his appointment as the company's surgeon. Capt. Carl Hartman, Unit Advisor in the center.

Major Morton N. Katz, Commanding Officer of the 411th CA Company, U. S. Army Reserve, announces the assignment of Dr. Franklin M. Foote as the unit's Public Health Officer. Dr. Foote is the Commissioner of Health for the State of Connecticut, a position which he has occupied since June 1959. Dr. Foote holds the grade of Lieutenant Colonel, Medical Corps, U. S. Army Reserve, and served on active duty during World War II as an instructor of preventive medicine.

Colonel Foote is a graduate of Yale University and, in addition to being a doctor of medicine, is a doctor of Public Health.

The Yale Medical Library and Connecticut Physicians

The Yale Medical Library, one of the great medical libraries of our time, is considered the largest medical school library in the world. It contains outstanding collections in the history of science and medicine, and maintains some 30,000 volumes, and annually receives over 1400 serials coming from all parts of the globe. What this means to Connecticut physicians is stated briefly,—any physician is entitled to full use of the Yale Medical Library, to withdraw books, attend exhibitions and lectures without library fee or other obligation. This policy practised by the Library for the past decade has been recently reaffirmed by the Medical Library Committee as a professional and scientific courtesy and as a continuing expression of the desire to be of service to Connecticut doctors.

Many physicians desiring to aid the Library are members of the Medical Library Associates and give $10 or more yearly to the Associates Fund which is used for the purchase of new and old books and for duplicate subscriptions to heavily used periodicals. In return members receive the monthly Bulletin of the Library listing new accessions, giving a commentary on library events and the notice of exhibitions and lectures.

This statement is presented here chiefly for the benefit of physicians who have recently come to our State. They and others who are unacquainted with the Yale Medical Library and the opportunities offered there owe themselves a visit to this great institution so near at hand.

Hartford County

John N. Gallivan, former vice chairman of the Governor's Committee on Employment of the Handicapped, has been named a recipient of a presidential citation for his services.

John Felber has been appointed psychiatrist-in-charge of the Blue Hills Hospital out-patient clinic of the Connecticut Commission on Alcoholism.

The Connecticut Mutual Life Insurance Company announced this month the promotion of David Luchs to associate medical director.

Dr. Luchs joined the firm in 1955. He is a graduate of Ohio State University and McGill University medical school.

Aetna Life Insurance Company has also announced promotions for J. Grant Irving to Chief Medical Director and Kenneth Brandon to medical director.

Arthur D. Wolf has been named Supervising Medical Consultant to the Hartford Rehabilitation Center to succeed Edward Scull who has held the post for the past five years. Dr. Wolf will be responsible for the evaluation of patients treated at the agency and for the medical supervision of the professional staff of the center.

He is a graduate of Yale and Western Reserve Medical School.

New Haven County

The County Association held its 176th Annual Meeting in New Haven on March 24th. In opening remarks Ellwood Weise, President of the Connecticut State Medical Society, stressed the need of maintaining high standards in the conduct of Society affairs if men of proper caliber are to be attracted to office. John Gallivan described the indoctrination process required of the president elect of the State Society, the position he now holds. He seconded Ellwood Weise's plea for a united Society, with differences of opinions democratically resolved into wise action. Thomas Feeney, Chairman of the Council, describing the extent to which the medical profession and the handling of medical care are under attack on all sides, urged every physician to concern himself with political and economic issues. Doctors should constantly keep in mind the necessity of guiding public attitudes in matters pertaining to medicine. One effective way of doing this is to be seen and heard at legislative hearings.

William Richards, General Manager, in remarks covering a number of topics, informed the Association that the Council had selected Hamden as the permanent site for the annual meeting of the Society. The meeting may be held at another site, however, should a local county request the privilege. He described late developments in federal legislation for health care of the aged, mentioning opposition of the Administration to measures of the Forand type. He said that at a recent meeting called by the State Commissioner of Health unequivocal opposition was expressed by representatives of our State Society to a proposal by chiropodists that they be allowed to prescribe systemic medications, including analgesics and antibiotics.

Israel Blodinger, Councilor, stated that renewed differences of opinion had recently developed between C.M.S. and physician members of its Board of Directors. The councilor spent some time describing measures taken in support of the medical viewpoint. This was the final report of Israel Blodinger as councilor. He expressed his gratitude for the opportunity of working in the Association's behalf, whereupon a rising vote of thanks was given him by all members present.

Orvan Hess reported on collections for the American Medical Education Foundation. In all a sum slightly in excess of $9,000 was collected in New Haven County for the Foundation during 1959. Over $3,000 of this represented donations by physicians of New Haven and East Haven of fees received in polio inoculation clinics. A proposal to make a ten dollar contribution to A.M.E.F. compulsory on members of the Association was defeated.

Clyde Deming proposed establishment of a five member committee to revise the by-laws of the Association. This motion was passed. A motion to make hiring of an executive secretary discretional with the Board of Governors was tabled.

The following officers were elected for 1960-61:

President—Henry Caplan, Meriden.

Vice-President—Anthony Mendillo, New Haven.

Clerk—Hyman Levin, New Haven.

Councilor—Samuel Rentsch, Derby.

Alternate Councilor—Jachin Davis, New Haven.

Member of Executive Committee—John Freiheit, Waterbury.

Election of an incoming Nominating Committee constituted the final order of business. The business meeting was followed by a pleasant social hour and dinner, retiring President Freiheit delivering an address on the Doctor's Dilemma.

The Doctor's Office

Louis W. Cappucci, M.D., announces the removal of his office from 291 Whitney Avenue to 116 Avon Street, New Haven.

Milton Dworin, M.D., announces the opening of an office for the practice of allergy at 282 West Avenue, Norwalk.

Millard C. Hanson, M.D., announces the removal of his office from 95 N. Main Street to 103 North Main Street, Waterbury.

Harry J. Tamoney, Jr., M.D., announces the removal of his office from 36 A Woodland Street to 1039 Asylum Avenue, Hartford.

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WOMAN'S AUXILIARY

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Mrs. J. Henry Kott, Torrington

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Mrs. Saul Karpel, New London

Corresponding Secretary
Mrs. Louis Soreff, East Hampton

Treasurer
Mrs. Fritz Meyer, Bridgeport

Mrs. Morton Arnold Assumes Presidency

Mrs. Morton Arnold of Windham Center assumed the Presidency of the Woman's Auxiliary to the Connecticut State Medical Society at the 16th Annual Meeting held April 27, 1960 at the New Haven Country Club. She succeeds Mrs. Walter Nelson of Cromwell.

The business meeting was held at 10:30 a.m. at which time annual reports were given, the budget for 1960-61 was adopted, the nominating committee for 1960-61 was elected and delegates to the Annual Convention of the Woman's Auxiliary to the American Medical Association to be held at Miami Beach, Florida, June 13-17, 1960 were elected. Connecticut has four delegates to this meeting plus the presidential delegate and four alternate delegates. The business meeting was followed by luncheon at which time guests to the meeting were introduced. Dr. Wilfred Bloomberg, Commissioner of Mental Health for Connecticut, spoke on the place of the community in mental health programs.

Scholarship Awards

Numerous scholarships have been awarded during this year by the County Auxiliaries. Hartford County has granted four medical scholarships, totaling $1,600. New London County has awarded two nursing scholarships of $300. Fairfield County granted $600. for paramedical career scholarships and $600. for nursing scholarships. Windham County will award nursing scholarships. New Haven County has granted two $250. scholarships for paramedical careers and one medical scholarship of $500. for a Yale medical student.

Several other scholarships will be granted by the Connecticut Auxiliaries but the information on them is not available at this time.

Woman's Auxiliary Plans 37th Annual Convention

Why not plan now to attend the 1960 meeting of the Woman's Auxiliary which is being held in conjunction with the American Medical Association annual meeting June 13-17 in Miami Beach. Auxiliary headquarters will be the Hotel Deauville.

The convention will formally convene Monday morning, June 13, with reports of officers and chairmen, election of the 1961 nominating committee, and the memorial service for the deceased members of the Auxiliary. The opening will be preceded by committee meetings on Saturday and Sunday, June 11-12.

The annual tea and fashion show honoring the president, Mrs. Frank Gastineau of Indianapolis, and the president-elect, Mrs. William Mackersie of Detroit, will be held Monday afternoon.

On Tuesday afternoon a special water safety program will be conducted at the hotel pool under the auspices of the Dade County chapter of the American Red Cross. Slogan for this presentation will be "SWAT—Safe Water Activity Training" to publicize the Auxiliary's 1960-61 safety campaign.

Business sessions on Tuesday will be devoted to reports of national chairmen in the fields of legislation, civil defense, mental health and recruitment. The mental health presentation will be discussion on "A doctor's mental health begins at home." Civil defense will emphasize the Auxiliary's home preparedness program.

National past presidents of the Auxiliary will be honored at Tuesday's luncheon. Guest speakers will be Dr. Louis M. Orr, A.M.A. president, and Dr E. Vincent Askey, A.M.A. president-elect. At this time the Auxiliary will announce its contribution to the nation's medical schools through the American Medical Foundation. Awards of merit will be presented to the state and county auxiliaries contributing the most to this project.

Election and installation of new officers will be the principal order of business during Wednesday's sessions. At this time Mrs. William Mackersie will give her inaugural address as new president of the Woman's Auxiliary.

A program of films on recruitment, aging and other worthwhile projects will be presented Thursday morning. In the afternoon round table discussions and program planning for the coming year will be moderated by the new chairman. At this meeting Dr. Ernest B. Howard, assistant executive vice president of the American Medical Association, will speak on new A.M.A. activities.

A full schedule of activities—ranging from a patio pool party, dancing and ping pong to boat trips and tours—is being arranged for the teenaged members of A.M.A. families by the Auxiliary.

All Auxiliary members, their guests and guests of physicians attending the A.M.A. annual meeting in Miami may participate in the social functions and attend the general meetings of the Auxiliary.

Local arrangements are under the direction of Mrs. Richard F. Stover of Miami, convention chairman.

A Pound of Prevention . . . !

It is easier to prevent overweight than it is to cure it. Eat a little less each year after the age of 25—and you won't get fat. Most overweight comes not from eating more but from continuing to eat the same amounts. As we get older, our bodies require about one per cent less food each year and each year and physical activity usually diminishes. Unless people allow for this by cutting down their food intake a little, it is almost impossible to avoid a gradual increase in poundage.

Life is full of little traps into which the unwary fall. This gradual decrease in fuel requirements as we advance in years is one of them. Another common trap that starts us on our way to obesity is a period of enforced inactivity, particularly if it is associated with attempts to get us to eat more to improve our strength. Many fat people can date the onset of their gain in weight to an illness, operation, or a pregnancy. It takes a conscious effort to return to normal eating patterns after a period of "forced feeding."

The overweight that insidiously develops if we ignore life's traps has been shown by life insurance company statistics to cause significantly higher death rates from diseases of the heart and circulation than is found among "standard risks" of normal weight. This tendency can be reversed if there is a return to normal weight through successful dieting, but anyone who has tried to shake off unwanted pounds will testify that it is easier to prevent weight gain than to diet weight loss.

Prevention of weight gain is easy if we multiply a tiny daily sacrifice by 365. Think what one slice of bread saved each day adds up to in a year—eighteen sandwich loaves. Try one instead of two slices of toast for breakfast. See if half a doughnut won't satisfy. The other half has the same fuel in it as a slice of bread.

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Book Reviews

THE TEENAGE YEARS; a Medical Guide for Young People and their Parents, Roth, Arthur, Doubleday & Co., Inc., Garden City, New York, 1960, 288 pages.

Reviewed by Bryant M. Wedge

Dr. Roth, the director of the Teenage Clinic of the Kaiser Foundation Medical Center in Oakland, California, makes a convincing case for medical practice set-ups centered on the frequently awkward requirements of adolescence. Formerly a pediatrician, he quite sensibly does not insist that adolescent medicine constitutes a new and esoteric specialty but rather that the complex physical, social and emotional requirements of this developmental period demand and deserve special attention and understanding. Since one of these requirements is that teenagers not be treated as children and can't be treated as adults, one is left with the necessity to meet teenagers on their own ground with an adolescent practice.

The bulk of the volume covers the normal and abnormal concerns of adolescents and their families in health and disease. Nothing is scotched; from acne, through erection, to glomerulonephritis. Although the book is touted as a medical guide for young people and their parents I would be inclined to reserve its prescription to the confused intelligentia, and above all to any physician who ever sees an adolescent in his practice.

BABIES BY CHOICE OR BY CHANCE by Alan F. Guttmacher, M.D., Doubleday & Co., Inc., Garden City, New York, 1959, 282 pp. $3.95.

Reviewed by C. Lee Buxton

Dr. Guttmacher has written an authoritative book on a subject of world-wide importance, to say nothing of its implications in the States of Connecticut and Massachusetts.

Possibly this reviewer is, because of obvious bias, not the appropriate person to discuss this book. But it would be hard to dispute the fact that Dr. Guttmacher's candid, sympathetic and intelligent approach to this subject is more realistic than presuming to evade the pressing and ever present crisis of its subject matter.

The problems of overpopulation both in the family and in the world in general are persuasively described. The present status of contraception, both medical and legal, is treated realistically. There is an interesting chapter on the recent imbroglio concerning the administration of contraceptive advice in New York hospitals. Although this may be somewhat geographically specific for the general reader, it is nevertheless a pretty standard example of what may, and generally does, happen in many hospitals in this country both publicly and privately endowed.

Possibly the chapter on abortion with a vivid description of the legal and medical hypocrisy involved in this practice is the most persuasive in the book. This and other chapters are made vivid by many reminiscent case reports from Dr. Guttmacher's experience—tragic case reports of a type with which every obstetrician and gynecologist of experience is familiar.

This book should be of value to lay and professional people alike who are interested in social problems. The reviewer would like to recommend it as required reading particularly to the legislature and judiciary of the States of Connecticut and Massachusetts.

THAT THE PATIENT MAY KNOW by Harry F. Dowling, M.D. and Tom Jones, B.F.A., W. B. Saunders Co., Philadelphia, Pa. 139 pp.

Reviewed by Denis S. O'Connor

The 8" x 11" volume is something distinctly different from what is usually offered to the doctor.

It is almost entirely line drawings with coloring to represent organs, tissues or pathological changes the more easily to permit the doctor to explain to the patient the problem presented by the diagnosis arrived at.

In this age of medicine when the public is being educated on medical subjects by all the communications media it is inevitable that the wise doctor will seek to tell his patient as much as possible in order that the patient may make an intelligent decision as to the possible methods of treatment for the condition.

Not to explain essential information to the patient could well allow him to proceed under the misleading information he has gained from his popular magazine or the faulty interpretation of otherwise accurate information due to his basic ignorance of the human body.

Visual aids are an important factor in all education today and the physician as a teacher must avail himself of such aids.

Here in one slender volume is all the material needed to simplify the doctor's educational job.

Next to the Physician's Desk Reference this book could become the most utilitarian book on the physician's desk.

A PARENTS' GUIDE TO THE EMOTIONAL NEEDS OF CHILDREN by Dr. David Goodman, New York, Hawthorn Books, Inc., 318 pp. $4.95.

Reviewed by Mary McGarry

Realizing that most parents love and want to help their children grow up happily, Dr. Goodman has prepared an excellent guide for parents. He uses a positive approach in enumerating the ways that they can help their children attain good mental health. He doesn't lecture but clearly demonstrates that a good relationship between the parents is the key to producing effective, happy children.

Based on the popular folder "What Every Child Needs" by the National Association for Mental Health he divides the book into seven sections, using their principles as his subdivisions.

The book is easy reading. He directs his thoughts to the parents and helps them to understand the child's basic needs.

In simple clearcut language he shows how parents can overcome their own emotional disabilities in order to supply the child's needs. He presents the rearing of children as a pleasant and not too difficult part of marriage. For this reason the book is useful to the great majority of parents, the parents of the usual child.

Never admonishing, he takes the position that we are ever growing and learning. Thus parents are encouraged to change their attitudes, if necessary or useful.

Throughout the book Dr. Goodman stresses love and common sense as the two essentials in the production of a healthy, competent individual who adds to the welfare of society. He defines what love is and shows that from the love of parents for each other, their children, and their God follows the fulfillment of the Mental Health needs: acceptance, security, protection, independence, faith, guidance, and control.

In an age when so much is written about juvenile delinquency, divorce, and mental illness, it is refreshing to find a book which makes child-rearing a pleasant rather than a complicated task. Although recognizing that parenthood is demanding, Dr. Goodman demonstrates that it is not overwhelming. He presents his facts clearly and simply and refrains from probing into the complicated reasons for his suggestions.

He stays with his thesis and achieves the goal he has set for himself.

A.M.A. Says Health Plan For Aged Is Too Costly

In a sharply-worded editorial, the Journal of the American Medical Association lashed out against legislation proposing a federal compulsory health insurance program.

It referred specifically to legislation, introduced by Rep. Aime Forand (D.-R.I.), which would amend the Social Security Act by providing hospital, nursing home, and surgical services for persons eligible for old age and survivors benefits. Eligibility age limits now are 65 for men and 62 for women.

FORAND BILL COSTLY

"The Forand bill is a costly, irreversible program tailored to avoid the real problem," the editorial said, adding: "It is a fundamental deviation from the basic concept of the social security system which provides cash benefits, not services. It injects the federal government into the physician-patient-hospital relationship. Its enactment would be followed by control of the health care of the aged by the Social Security Administration.

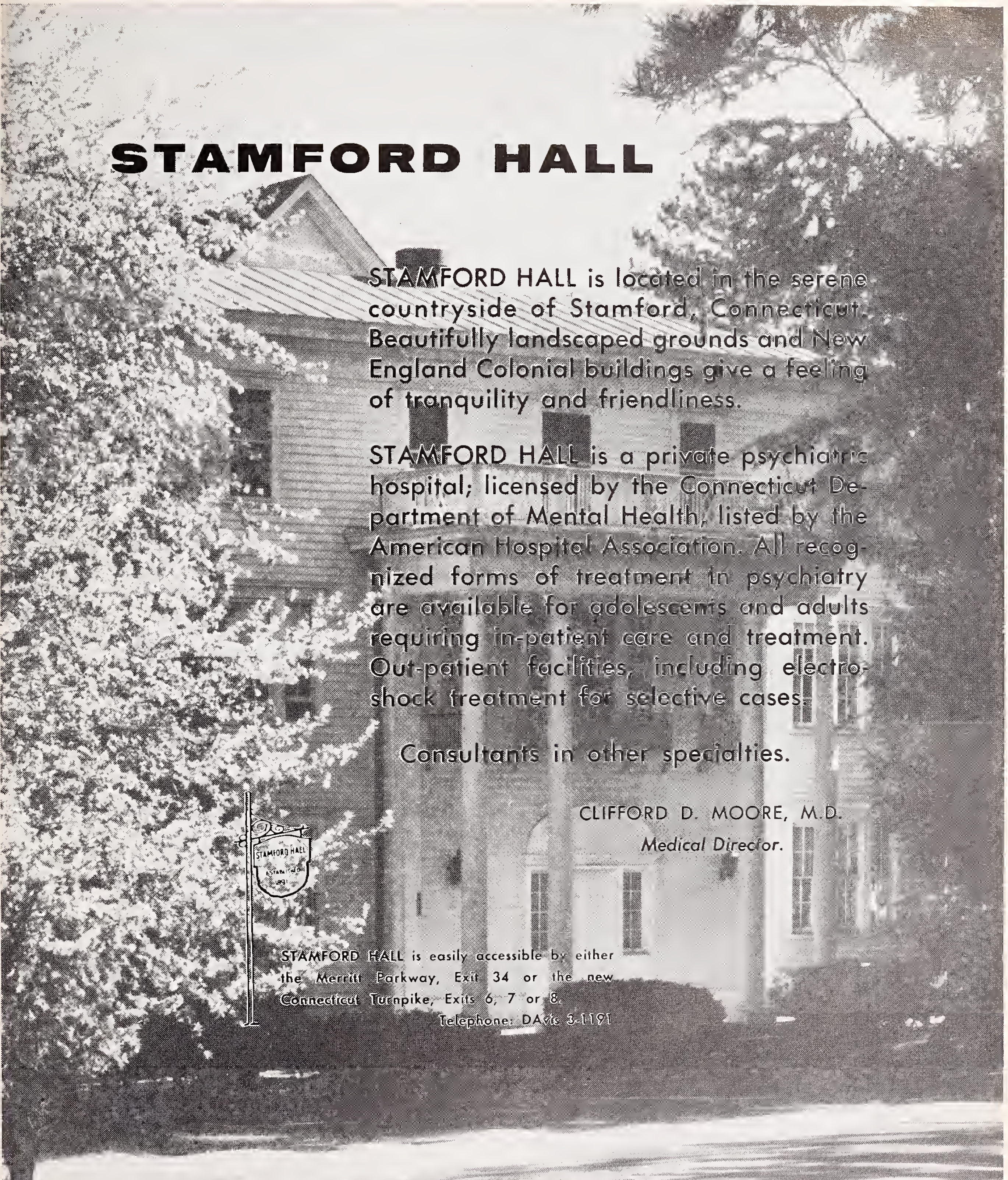
"The strongest objection, however, to this kind of legislation is that it is unnecessary and would lower the quality of care rendered. Great progress is being made through voluntary enterprise supplemented by governmental programs that do not socialize the health professions. Voluntary prepayment plans and health insurance have made phenomenal advances during recent years. Already 43% of those aged over 65 years are covered by some kind of insurance, and it is predicted that by the end of 1960, about 60% of those over 65 who wish to purchase such insurance will be covered. Social security cash benefits, private pension plans, increasing savings, and liquid assets are all combining to improve steadily the economic resources and purchasing power of the group over 65."

"It is obvious," the Journal editorial continued, "that whatever problem exists is among the needy and near-needy aged who would be rapidly reduced to a state of destitution by prolonged illness. In recognition of this fact that Boards of Trustees of the American Medical Association and the American Hospital Association recently adopted a resolution dedicating their full resources to accelerate the development of adequately-financed health care programs for needy persons, especially the aged needy. Both organizations stated that 'the indigent or near indigent is primarily a community responsibility.' The resolution pointed out that the Forand bill fails to meet the need of the indigent aged since the vast majority of such aged are not eligible to receive social security benefits.

MEDICAL PLANS FOR AGED IMPROVING

"Medical-care programs for indigent citizens, especially those over 65, are improving. A new psychological climate for the aging is being created that promotes their productive utilization in society. New hospital designs more suitable and more economical for the care of the ambulatory aged, homemaker services, home-care services, improved nursing homes, and other positive action programs are proceeding at a rapid pace. Thus, voluntary and governmental enterprise that preserve individual responsibility and free choice have teamed up in recent years and are moving rapidly to resolve whatever problems still remain.

"It will always be possible to do a better job, but the one development which would apply a brake to all of these progressively developing movements would be Forand-type legislation. To bureaucratize medical care by funneling its services through the social security system would supply a 'cure' that would be worse than the disease in its ultimate effects on individual freedom and a free society."



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CREIGHTON BARKER, M.D.
1892 - 1960

Dr. Creighton Barker, executive secretary of the Connecticut State Medical Society for 22 years, died April 8, 1960 at his home, 119 Armory Street, after a long illness He was 68 years of age.

He was born Jan. 15, 1892, in New Milford, the son of Dr. James Barker and Adelaide DeWitt Barker.

He received his early education in New Milford schools and graduated from Dartmouth College in 1910 and from Dartmouth Medical School in 1913. He interned at New Haven Hospital and then enlisted in the U. S. Army Medical Corps, serving in France during World War I.

Upon his return he entered private practice in New Haven and served as associate clinical professor of otolaryngology at the Yale University School of Medicine. He was a diplomate of the American Board of Otolarynology.

He was executive secretary of the Connecticut State Medical Society from 1936 until his retirement in 1958, and was secretary of the Connecticut Medical Examining Board from 1941 to 1958.

Prior to his retirement he was vice president of the National Board of Medical Examiners, the National Committee on Chronic Illness, the National Committee on Evaluation and Foreign Medical Credentials, the board of directors of the Connecticut Medical Service, chairman of the Connecticut State Advisory Committee to the Selective Service System and a member of the National Advisory Board for Medical Specialties.

He had previously been president of the Connecticut Branch, American Cancer Society; a delegate to the American Medical Association from the Connecticut State Medical Society for a period of 10 years, and alternate delegate from the American Medical Association to the World Medical Association in 1948 and 1949.

Dr. Barker was also state consultant for the Procurement and Assignment Services for Physicians, War Manpower Committee, Washington, D. C., during World War II.

He was also a member of the Connecticut Veterans Advisory Committee, the board of trustees of the University of Connecticut and the board of directors of Connecticut Blue Cross.

In August, 1949, Dr. Barker attended the first World Conference on Medical Education in London as a representative of the Federated Medical Examining Boards of the United States, of which he was past president. He led discussions on licensing of foreign doctors in the United States, and then went to The Hague, where he attended the seventh general assembly of the World Medical Association.

In March, 1955, Dr. Barker was awarded the Bronze Medal citation for "distinguished service in cancer control.

A new conference room of the Connecticut State Medical Society at 160 St. Ronan Street, was named in honor of Dr. Barker in 1956, in recognition of his long service to the society.

Dr. Barker leaves his wife, the former Juliette Beach formerly of New Milford; two sons, Merritt Beach Barker of New Milford and Stanton DeWitt Barker of Guilford; a sister, Mrs. Julie Noble of New Milford, and three grandchildren.

The death of Dr. Creighton Barker coming at a time at which the May issue of Connecticut Medicine was going to press made it impossible to adequately recognize the services of Dr. Barker to the Connecticut State Medical Society. For this reason only the bare obituary is being given at this time and in a future issue a more adequate recognition will be given to Dr. Barker.

Obituaries

Raymond R. Gandy, M.D.
1874 - 1960

Dr. Raymond Reeves Gandy died at his home in Myrtle Beach, S. C. February 20, 1960 in his 85th year. Dr. Gandy was born in Philadelphia, November 21, 1874. He attended both Temple College and the University of Pennsylvania; graduating from the latter with an M.D. degree in 1899.

Shortly after graduating from the university, Dr. Gandy married Esther Bejbom of Brooklyn, New York. The happy couple moved to Colchester, Connecticut where he practiced general medicine for 10 years. In 1909 Dr. Gandy took his family to Europe where he entered into post graduate studies in medicine at both Berlin and Vienna. It was during these studies that he became especially interested in gynecology and obstetrics. Following this trip Dr. Gandy spent a year at the Sloan Hospital for Women, furthering his knowledge in gynecology and obstetrics.

In 1911 he began general practice in Stamford, devoting as much time as possible to his first love—gynecology and obstetrics. In 1932 Dr. Gandy became a Fellow of the American College of Surgeons. He served on the regular staff of the Stamford Hospital for years, later becoming Director of the Gynecological and Obstetrics Departments, from which he resigned January 1950. He served on the Medical Board of the Stamford Hospital from October 1937, from which he resigned in 1950.

He was honored by the Connecticut State Medical Society in 1949 for having completed 50 years of medical practice in our state.

Dr. Gandy was an ardent yachtsman and when time permitted he could always be found puttering around his yacht or taking a trip on the sound. He had many honors in the yachting world. Years ago he served as Commander in the United States Power Squadron and during the last war was Commander of Flotilla 714 of the United States Coast Guard Auxillary.

As a new physician in town, during the early twenties, I can never forget the many kindnesses extended to me. He was always ready to give wise and cherished counsel to us all. His magnanimous attitude was demonstrated by his many activities in community and church affairs.

Oliver L. Stringfield, M.D.

James O. Anderson, M.D.
1899 - 1960

Dr. Anderson practiced psychiatry in the Hartford area for over 10 years. He had become recognized as being able to help patients with the most difficult emotional problems. Before his death he was planning partial retirement as he wanted to consolidate his years of study and practice by putting in writing his philosophy and techniques so that others could use them, and for which he had received numerous requests. One of his outstanding qualities was his refusal to compromise in the principles in which he believed.

Dr. Anderson took his Masters Degree at the University of California where he became a member of the staff. It was while on leave in Europe to study for his Ph.D. that he decided his field must be psychiatry. He took his Medical Degree at Georgetown University, had a three year internship at Chestnut Lodge Sanitarium, a medical internship at Holy Name Hospital, and a psychiatric internship at Pilgrim State Hospital. He entered hospital practice for the purpose of studying psychotic behavior as he believed that by direct contact with patients psychiatric treatment could best be learned.

At the start of World War II he was with the Veterans Administration and enlisted in the Army Medical Corps. He previously served in World War I, enlisting in the army at the age of 17 and then by appointment to the U. S. Naval Academy.

Dr. Anderson helped many and each day brings testimony of gratitude and sorrow at his passing.

To his family and those near him he was most beloved. As a friend he was kind, helpful, honest and inspiring. His untimely death came as a shock to all.

Loftus L. Walton, M.D.

Richard J. Lawton, M.D.
1883 - 1960

Dr. Richard J. Lawton of Terryville died February 5, 1960 at the age of 76.

He received his education in the schools of Wallingford, Connecticut where he was born. He graduated from the Maryland Medical School in Baltimore, Maryland in 1908.

He located in Terryville, where he became a very much beloved and successful general practitioner. He volunteered for the Army Medical Corps in the spring of 1917 and served overseas.

Upon his discharge from the Army, he studied dermatology at the Skin and Cancer Hospital and at Belleview Hospital in New York City.

He practiced dermatology in Terryville and in Waterbury. He was on the staffs of hospitals in Waterbury and Bristol.

He was a member of the Dermatological Section of the New York Academy of Medicine, the Litchfield County and Connecticut State Medical Society.

He belonged to the Elks and the Plymouth Post No. 20, American Legion, and the Knights of Columbus. He was an excellent golfer and won the Pequabuck Golf Club championship in 1916.

Harold Woodward, M.D.

E. Frederick Callender, M.D.
1889 - 1960

On November 4, 1889 Eugene Frederick Callender was born in Syracuse, New York, the son of William Steele Callender and the late Lucy Childs Callender. Early in life his family moved to Waterbury and this continued to be his home until 1928. He attended elementary and secondary schools there, graduating from Crosby High School in 1908. He entered the Yale University School of Medicine directly from high school and received his medical degree in 1912. Following graduation he completed a year's internship in the Hospital of St. Raphael, New Haven, which was followed by a second internship of 14 months in the Waterbury Hospital.

In the fall of 1914 he entered upon the general practice of medicine in Waterbury and soon was appointed to the surgical staff of the Waterbury Hospital. In 1928 he moved to Durham where he did general practice until 1930 when he took on the practice of Dr. Carl C. Chase in Chester.

From then until 1960—a period of 30 years—he lived and worked among the people of Chester, beloved and respected by them. He became the personification of the fine family physician—unstinting with his time, sympathetic, understanding, blunt when necessary, and endowed with an abundance of that most rare ingredient of personality—grand common sense. In addition to his ordinary duties, he served his people for long periods as the town health officer, the medical examiner, and the school physician.

On November 26, 1910 he married Erena Mulholland of Middletown, and this exceptionally happy marriage was blessed with two children; a son, William Steele Callender, II of Essex, and a daughter, Mrs. Ann Callender Murphy of Middletown.

He was a member of St. Stephen's Episcopal Church of East Haddam. He was a Fellow of the A.M.A., a member of the Connecticut State Medical Society, and the Middlesex County Medical Association.

On January 7, 1958 he made the tentative diagnosis on himself of carcinoma of the throat. Treatment gave him a respite from the disease until June, 1959 when metastatic disease appeared and he reluctantly closed his office and laid aside his "little black bag." His disability continued until February 3, 1960, when in his 70th year, the Author of Life invited him to come see His smile, and the career of this splendid, noble gentleman, member of our medical association, close friend and colleague of many of us, drew to a close.

Harold E. Speight, M.D.

In Memoriam

Cole, Lewis F.—New London; New York University and Bellevue Hospital Medical School, 1922; practiced medicine in Connecticut since licensure in 1954; specialized in anesthesiology and was a member of the medical staff at Lawrence and Memorial Associated Hospital, New London; died of an acute coronary occlusion March 14, aged 62.

Hills, Laura K.—Winter Haven, Fla.; Women's Medical College of Pennsylvania 1896; formerly of Willimantic, Dr. Hills retired several years ago and moved to Florida; she was one of three women physicians honored for 50 years of active membership in the State Medical Society; died at her home in Florida February 3, at age of 87 years.

Special Notices

The 109th Annual A.M.A. Meeting To Be Held in Miami Beach June 13-17

The 109th annual meeting of the American Medical Association, June 13th-17th, will be a forum presented by some of the nation's top scientific brains. The meeting is A.M.A.'s first in Miami Beach since the winter of 1954.

There will be two general scientific meetings in the Grand Ballroom of the Fontainebleau Hotel, and other lectures, symposiums, and panel discussions in the Fontainebleau, Eden Roc Hotel, and in the new, air-conditioned Miami Beach Exhibition Hall.

SECTION PROGRAMS

What's new in surgery will be explored during a symposium and panel discussion on Wednesday morning.

The symposium will be on "Recent Advances in Treatment of the Cancer Patient" with an introduction to the problem including methods of decreasing spread of cancer cells during operations being presented by Warren H. Cole, Chicago.

Highlights of other section meetings include:

Nervous and Mental Diseases—E. S. Gurdjian, Detroit, "Critique of Occlusive Disease of the Carotid Artery and the Stroke Syndrome." Leo H. Bartemeier, Baltimore, "Comments on the Relations Between Psychiatrists and Other Physicians."

Obstetrics and Gynecology—Stirling G. Pillsbury, Long Beach, Calif., "31,595 Deliveries with One Maternal Death." Jerome M. Kummer, Santa Monica, Calif., "An Answer for Criminal Abortion."

Internal Medicine—"Symposium on Hypocholesteremic Drugs." Walter L. Palmer, Chicago, "The Billings Lecture: Causality in Peptic Ulcer." Rudolph H. Kampmeier, Nashville, Tenn., "Collagen Diseases—Some Unanswered Questions."

Laryngology, Otology, and Rhinology—George A. Sisson, Syracuse, N. Y., "Problems and Complications in Head and Neck Surgery." C. M. Kos, Iowa City, Iowa, "Five Year Results of Stapes Mobilization and Current Results with Vein Plug Stapedeoplasty."

Preventive Medicine—Jan H. Tillisch, Rochester, Minn., "Medical Aspects of Safety in the Air." Robert B. Stonehill, San Antonio, Texas, "Air Travel and the Cardiopulmonary Patient," a film presentation.

Orthopedic Surgery—Sidney Keats, Newark, N. J., "Surgery of the Extremities in the Treatment of Cerebral Palsy." H. R. McCarroll, St. Louis, Mo., "The Management of Complicated Ununited Fractures of the Tibia and Fibula."

Pediatrics—Leonard S. Sommer, Miami, moderator, "Symposium on Congenital Heart Disease—Present-day Status from Viewpoint of Practitioner of Medicine."

The section on Miscellaneous Topics will feature a half-day session on the "Management of the Older Patient." Participants include Philip Thorek, Chicago.

EXHIBITS NUMBER 290

About 290 exhibits will be on display in the Miami Beach Exhibition Hall, representing the most outstanding exhibits selected from 540 applications.

HARTFORD HOSPITAL
Saturday Morning 11 O'clock Guest Speakers
May 7 to June 16, 1960

May 7—Dorothy M. Horstmann, M.D., Associate Professor of Preventive Medicine and Pediatrics, Yale University School of Medicine. Subject: Evaluation of the Attenuated Polio Virus Program in Russia.

May 14—Myron E. Wegman, M.D., Secretary General, World Health Organization Sanitary Bureau for the Americas. Subject: The Work of the W.H.O. in Latin America.

May 21 (Three Day Visiting Surgeon) May 19, 20, 21—H. Thomas Randall, M.D., Director, Memorial Hospital, New York City.

9:00 A.M. Subject: To be announced.
10:00 A.M. Surgical Grand Rounds.
11:00 A.M. To be announced.

May 28—Seymour R. Lipsky, M.D., Assistant Professor of Medicine, Yale University School of Medicine. Subject: Medicine and South Africa, 1960.

June 4—S. J. Thannhauser, M.D., Emeritus Professor of Medicine, Tufts University School of Medicine. Subject: Case Presentation.

June 11—Joseph H. Holmes, M.D., Professor and Chief of Pathology Laboratory, University of Colorado School of Medicine. Subject: Diagnosis by Ultrasonics.

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(Supplement to Connecticut Medicine, Volume 24, number 5, May, 1960)

The Enemy Within

On May 5, 1960, several responsible representatives of the medical profession enjoyed the somewhat questionable privilege of attending a public Forum in Hartford, titled "Meeting the Health Needs of Older People." This purported to be offered as "a community service" by the Connecticut Society of Gerontology.

Moderated by Mrs. Ruth W. Greenberg, Education Director of the Connecticut Labor Council, three panelists participated in the forum program.

Lead-off man was Professor Donald Kent, Director of the Institute of Gerontology, University of Connecticut, who is also Chairman of the State Commission on Services to Elderly Persons and, in addition, is Instructor in Labor Education for the Greater Bridgeport Labor Council. Dr. Kent had as his topic, "What are the Needs?" of older people, and this he covered adequately in his remarks.

The two other panelists were charged with offering possible solutions to meet "the needs" as reported by Dr. Kent. Mr. Joseph F. Follman, Jr., Director of Information and Research, Health Insurance Association of America, gave a very forthright, informative and factual presentation as to what the insurance industry has accomplished in making health-care policies available to all people, including the aged, and what it is hoped may be accomplished in the foreseeable future. He laid no claim to having all the answers but pointed to a record of real progress and achievement in this field by the voluntary plans.

The anchor man for the panel was a person by the name of Mr. Ted Silvey, identified as an AFL-CIO Research Director from Washington, D. C. who was substituting for Mr. Nelson Cruikshank, Director, Department of Social Security, AFL-CIO.

It was Mr. Silvey who, in this writer's opinion, transformed the forum from a community *service* into a community *disservice*. Over and above reiterating the well-known fact that the AFL-CIO is strongly backing the Forand Bill, HR 4700, he cast very little light on how the health needs of the aged would be met satisfactorily through federal legislation.

But in a loud and truculent manner, he gave voice to the following inrresponsible opinions:

That most hospitals are financially "gouging" the defenseless patient who has the misfortune to require admission.

That doctors "double charge" their patients, frequently and regularly.

That doctors have no further interest in patients, once it is determined that they have no money.

That physicians give only "token' or "palliative" care to those who are indigent.

That the best way for an indigent patient to get good medical care is to acquire a "rare disease" so that his doctor can "write up the case in the *Journal of the American Medical Association.*

That any legislative proposal to provide protection against health-care costs (for senior citizens) through voluntary health insurance agencies is obviously designed to make the insurance companies "richer" and to "protect the doctors' fees," and *not* for the benefit of "the people."

Mr. Silvey publicly made these malicious statements and many more in the same vein. He brought in the Negro and his civil rights, the retired worker and his "earned" rights and the current worker and his "moral" rights. Throughout his presentation, he preached political and class distinction in quite unmistakable language. All this he did under the thin pretext of advocating federal legislation as the best way to provide health care services to older persons. Even Dr. Kent, who is supposedly seeking only "the facts" in Connecticut for the Governor, seemed carried away by this man's oratory to the extent that he let fall an allegedly humorous remark about President Eisenhower "coming in off the golf course" to give some thought to this important matter.

Mr. Silvey and certain others who share his convictions do not appear to us to employ responsible methods, yet they hold positions of public responsibility which are at least comparable to those we hold as physicians. Unfortunately, the "ground rules" of this Forum did not permit people in the audience to challenge or discuss any of the statements made by the panelists, but Mr. Folland was warmly applauded when he observed, in rebuttal, that if Mr. Silvey had named a specific person or organization in his remarks, he most certainly could "be sued for libel or slander."

Once again, therefore, it is necessary to sound the alarm and urge more doctors to attend these "community service" programs so as to hear, in person, what is being presented to the people as facts, lest their good name be repeatedly smeared and their motives impugned and there be no one to rise and protest.

It is frightening—indeed, it assumes the proportions of a potential national tragedy—to think that hundreds of thousands and perhaps even millions of union members and their families, among others, are being exposed to this evil propaganda in an effort to entice them to vote for political candidates who will promise to support the Forand Bill or one of its alternatives. Whatever may be worthy or unworthy about *any* plan to assist older people in financing their health care needs, let us hope that the medical profession and other responsible groups will never find it necessary to resort to this type of mutually degrading smear campaign in order to gain even a single point or advantage.

The above press release from the office of the General Manager, Connecticut State Medical Society, is presented as a supplement to the May issue of Connecticut Medicine *for the convenience of the members of the Society should they wish to present the Society's position on this matter of national legislation to their patients or friends.*—EDITOR.

A Tribute to . . .

Creighton Barker

January 15, 1892
April 8, 1960

From the day of the reorganization of the Connecticut State Medical Society in 1936 when Creighton Barker was chosen Administrative Secretary he labored unceasingly in the interests of the Society and its individual members. To him the status quo was never acceptable but instead his mind was constantly adventuring into new fields where there awaited him new accomplishments and new rewards. Our medical leaders of that day knew the man they selected for he had proven his worth as Secretary of the New Haven County Medical Association for five years immediately preceding, had been Treasurer of the State Society for one year, and was to achieve the position of President of his County Association two years later. They could find no other physician of equal stature and experience who was as familiar with the problems of medicine both in Connecticut and in the United States.

Creighton Barker had a vision of the position the State Medical Society should hold in the life of Connecticut and of what it should accomplish, both for the citizens and for the physicians of our State. At times he seemed a hard task master, driving his colleagues relentlessly toward a goal he believed attainable. Critical, but at the same time willingly giving of his time and counsel, he almost single handed for many years was the master mind responsible for the progressive development of our State Medical Society. After serving as Administrative Secretary for one year he became Executive Secretary, combining the duties of his former office with those of the Legislative Secretary. This was on a part time basis, but only for the short period of two years during which time he found the work of the State Society so demanding and of such importance that he relinquished his private practice.

From that day on the Connecticut State Medical Society grew in stature and influence. Dr. Barker had already set up an office for the Society on Grove Street, New Haven and officially offered its services to the members of the Society. Through his efforts commercial exhibits were introduced at the annual meetings and became an important source of revenue. At the time of the Sesquicentennial celebration we find Creighton Barker among the speakers, tracing the early history of the Society. That same year he had the bold foresight to advocate a "home of its own" for the State Society as well as a Woman's Auxiliary. Both became realities through his energetic leadership. At this time the Society found itself entitled to a third delegate to the American Medical Association, so it seemed logical to select Creighton Barker. It was not long before he saw the need for taking count of stock and suggested a Committee to Study the Organization and Objectives of the Society. With the fine support of a group of physicians this study was carried through and many improvements in its operation resulted.

Creighton Barker was an important figure in many community activities in Connecticut. An entertaining speaker, he was constantly in demand at dinners, luncheons, and society meetings of all kinds. In 1940 he was made Chairman of a Commission on Prevention and Care of Sickness. The same year he was appointed to the Committee to Study Compulsory Automobile Insurance. He was Executive Secretary of the Committee on Medical Preparedness in World War II and this dovetailed with his position as Chairman and Director of the Procurement and Assignment Service for Connecticut in that same period. In 1945 Dr. Barker proposed a Connecticut Council on Medical Care to include other leaders beside physicians. He was one of the original incorporators of the Connecticut Division of the American Cancer Society, served as its President from 1947 to 1949, and was awarded its medal in 1955. The Institute of Living in Hartford appointed him to its Board of Medical Visitors, he was selected as Secretary of the Governor's Commission on Medical Education which was concerned in 1952 with the need for a new medical school in our State. He operated the State Advisory Committee to Selective Service which was a part of the administration of the Doctor Draft Law passed in 1950.

Creighton Barker had other activities of importance. No session of the General Assembly met during his term of office but he was on hand to listen in chambers, to discuss in the corridors, and to appear before legislative committees on behalf of the State Medical Society. He was known by and knew every member of the Assembly, a fact perhaps little appreciated by his fellow physicians. When the Medical Practice Act was rewritten in 1941, Creighton Barker contributed prominently.

The activities of the Connecticut Medical Examining Board increased to such an extent that in 1941 it was thought advisable to employ a secretary to the Board. Again the selection fell to Creighton Barker. To this position was added that of President-Elect of the Federation of State Medical Examining Boards of the United States in 1949 and President the following year. Not long after he was instrumental in securing the passage in the Connecticut legislature of Public Act No. 189 which made possible the appointment of foreign medical school graduates as interns and residents in the hospitals of Connecticut under Educational Permits. He represented the Federation of Medical Examining Boards at the First World Conference on Medical Education held in London in 1953 and the following year was appointed a member of the National Board of Medical Examiners and Chairman of the Board's Committee on State Board Relations. His other national honors were just as significant: Chairman of the A.M.A. Conference of Secretaries and Editors in 1939; Secretary of the National Conference on Medical Service in 1946 and its President the following year; Alternate Delegate to the World Medical Association in Geneva in 1948 and Delegate to the session in London the following year. Dr. Barker received the first award bestowed by the Medical Societies Executives Conference for outstanding service in 1953, and was appointed a member of the American Medical Association's Committee on Evaluation of Foreign Medical Schools, making surveys in Denmark, Norway and Sweden.

In the midst of all these administrative duties and honors, Dr. Barker possessed and used a facile pen. His annual reports before the State Society House of Delegates are examples of wisdom and accomplishment. Many articles over his name appeared in the *Connecticut State Medical Journal* and in the *Yale Journal of Biology and Medicine.* His was a continuing interest in medical history with accounts of many of Connecticut's medical leaders of the past and a chapter in the Sesquicentennial volume on "The Origin of the Connecticut State Medical Society." The Practitioners Library of Medicine and Surgery contains four articles by him on conditions pertaining to his specialty of otorhinolaryngology. Typical of Creighton Barker's concept of the opportunity of organized medicine is a paragraph from an address he delivered before the Colorado State Medical Society.

> "The profession of medicine is not just a company of odd little men, each intent on making as much money as he can. There is something in medicine that is bigger than any one of us and that fine bigness can find its expression best through our medical societies."

A full life, yes, but a productive one which never hesitated to point out the flaws and urge his fellow physicians on to greater accomplishments. The Connecticut State Medical Society prospered and matured under Creighton Barker's leadership. It was no surprise then when in 1956 he was honored by having his name affixed to the principal room in the new addition to the Society's building. The citation on the silver tray presented to him on that occasion reads as follows:

From the Connecticut State Medical Society
to
Dr. Creighton Barker
In gratitude for his devotion, wise guidance
and distinguished service to the
Medical Profession

Only those who worked shoulder to shoulder with Creighton Barker during those twenty-two years in which he devoted himself to his State Society realize the zeal with which he labored to further all that was best in organized medicine in Connecticut. George M. Morris, Esq., President of the American Bar Association in 1942, may well have had in mind the Executive Secretary of the Connecticut State Medical Society when he sent this message to the Society at the time of its Sesquicentennial:

> "My professional association with men active in the medical organization field has led me to the conclusion that no group of persons is more devoted to the public welfare than are the men of the medical profession. x x x x I have been impressed with the intense, almost fierce, determination of the profession to see that the main function of the medical societies is to advance the art and the science of medicine. x x x x Those persons who make a study of the necessities of the situation and the wisdom which is the result of medical experience will come to the conclusion, in the end, that organized medicine is one of the finest flowers of modern civilized life."

Stanley B. Weld, M.D.

THE PRESENT STATUS of CARCINOMA of the PROSTATE GLAND

- **5% of all men who reach the age of 60 years develop carcinoma of the prostate gland.**
- Benign hyperplasia and cancer are often co-existent.
- **The cause of cancer of the prostate is unknown. Benign hypertrophy and prostatic cancer result from a disturbance of both the ratio of, and the quantity of circulating androgen and estrogen in men.**
- Microscopically, about 97.5% of prostatic cancers are adenocarinomas, 2.5% are squamous epitheliomas, and 5% are combinations of the two.
- **85% of cancers of the prostate originate in the posterior portion of the posterior lobe.**
- The prostate gland is an essential producer of an enzyme phosphatase. When an isolated nodule of carinoma is present in the prostate and there is no metastases, the acid phosphatase level is normal.
- **An early diagnosis of carcinoma of the prostate gland is easily made by a rectal examination.**
- Yearly examination of patients after their 50th year, including routine rectal examination is suggested.
- **Operation on patients early, with surgical removal of the lesion is necessary.**
- The use of non-surgical methods is suggested, where surgery is inadvisable or futile.

From Department of Surgery, Section of Urology, Yale University, School of Medicine.

Lecture on Cancer Education Program for the Bronx Medical Society and the Albert Einstein College of Medicine, May 21, 1959.

HARRY R. NEWMAN, M.D.,* New Haven
Assistant Clinical Professor of Urology
Yale University, School of Medicine

Cancer of the prostate is the most common malignancy affecting the male genitourinary tract. Since the number of older people in our population is increasing, the problem of cancer of the prostate gland becomes more important as time goes on. Prostatic cancer accounts for approximately 10 per cent of hospitalizations for cancer among males. Gordon's survey reports that 11.5 per cent of all male cancer deaths are due to cancer of the prostate. A report on cancer mortality by the National Office of Vital Statistics in the United States in 1953 revealed that the total number of men dying from carcinoma of the prostate was 12,595, or a rate of eight per 100,000. It is a rare disease in the male under 40 years, and is common in ages over 50, and reaches its highest level in the seventh decade of life. Carcinoma of the prostate has the same incidence rate in Europe as it has in the United States. For reasons unknown, both nodular hyperplasia and prostatic cancer are rare in Orientals. It is a rare disease in China. Hu and Chin found only one case of prostatic carcinoma in 379 carcinomas in men autopsied in the Hospital of the Peiping Union Medical College. Not a single example of benign hypertrophy or cancer of the prostate is recorded in eunuchs. The Bedouin Arab of the desert is said to be free from prostatic hypertrophy and cancer presumably because he spends the greater part of his life in the saddle of his steed, suffering repeated testicular trauma, which results in atrophy of the testicle and androgenic deficiency. About five per cent of all men who reach the age of 60 years develop the disease. In comprehensive studies of prostates removed surgically, because of benign hyperplasia, nests of cancer cells have been discovered by the microscope in about 20 per cent.[17] The incidence of prostatic cancer on routine autopsy material has been reported, and these studies give us still more information concerning the frequency of prostatic cancer. Rich and Moore[13] have examined prostates removed at autopsy from men over the age of 50, most of whom did not die of cancer of the prostate, and were not suspected of having it before death. In some cases, routine sections were examined. In others, serial blocks were made. Carcinoma of the prostate was found in from 14 per cent to 20 per cent of these cases. Cancer varied from frank, gross involvement of the gland, to tiny occult foci found on careful search. Baron and Angrist[1] examined the prostate in serial sections in a group of unselected, consecutive autopsies of 50 men over the age of 50, and reported the incidence of occult carcinoma to be 46 per cent.

From the clinical standpoint, it is well to remember, as stated by Hugh Young[17] that benign hyperplasia and cancer are coexistent in about 75 per cent of cases and that of 100 cases of prostatic obstruction, about 20 would be found to have cancer.

Etiology

The cause of cancer of the prostate is unknown. It would seem from evidence on hand, that both nodular hyperplasia and prostatic cancer result from a disturbance of both the ratio of, and the quantity of, circulating androgen and estrogen in men. Nevertheless, no one has been able to induce cancer in animals by the prolonged use of androgens. Experimental attempts to produce andenocarcinoma of the prostate in animals have been uniformly unsuccessful. In contrast to the known stimulating effects of androgens on human prostatic carcinoma, androgen administrated to animals has not produced prostatic tumors. However, in animals, as in men, prolonged administration of estrogens results in a squamous metaplasia of prostatic epithelium, but not in neoplasia. By injection of benzyprene directly into animal prostates, Moore and Melchionna[12] produced after 110 days, epidermoid carcinomas and leiomyosarcomas, but not adenocarcinoma. One may add, that as man ages, there is a decrease in the urinary androgens and the glands in the posterior lobe of the prostate atrophy. For some unknown reason, 85 per cent of cancers of the prostate originate in this area. Also, as man ages, hypertrophy of the prostate gland occurs. This is localized mostly in the lateral and middle lobes.

Pathology

When cancer begins to develop in the prostate gland, it is usually confined to the posterior portion of the posterior lobe. Growing cephalo-caudad, it may invade the capsule, but rarely does it extend beyond the Denonvilliers' fascia posteriorly, and for this reason the tumor often spares the rectum. In the late stages, the disease involves the seminal vesicles and the bladder. The lymph nodes—iliac, periaortic, and hypogastric—are most frequently the site of metastases, occurring in about 77 per cent of fatal cases (Muir). Osseous metastases are frequent, occurring in 70 per cent of clinically manifest cases (Willis). In patients with bone metastases, the pelvis and the sacrum are most commonly involved, occurring in about 85 per cent of the cases. The femur, spine, ribs and even the skull and tibia may, at times, show metastases. Bone metastases are commonly osteoblastic, giving rise to increased density in bone, but in some cases the lesion may be osteolytic, or may even be a combination of these two processes. Visceral metastases are found in about 40 per cent of fatal cases (Willis). They are a late development, and occur most frequently in the lungs, liver and pleura.

There is considerable disagreement concerning the mode of spread of the metastatic cell to bone. Most observers have found that the bones closest to the prostate, namely, the pelvis and the lumbar spine, are by far the most frequent sites of metastases. Two explanations for this distribution have been offered: one, tumor invasion and extension along the perineural lymphatics leading to these two bones (Warren, Harris and Graves);[10] and, the other, direct extension, or embolization by way of the vertebral venous plexus (Batson). Occult carcinoma or latent carcinoma have a high incidence of spread to bone, occurring in about 20 per cent of individuals over 50 years of age who have come to autopsy.

Microscopically, about 97.5 per cent of prostatic cancers are adenocarcinomas, 2.5 per cent are squamous epitheliomas, and 0.5 per cent are combinations of the two (Thompsons 1942). The tumor arises from the acinar or ductal epithelium of the prostate, and may vary considerably in its glandular differentiation and anaplasia. The term adenocarcinoma has been used to describe the majority of those tumors which are well differentiated. Carcinoma simplex, and small cell carcinomas are less common than the differentiated tumors. The adenocarcinoma reacts best to hormonal treatment and the squamous exhibits the poorest response. Undifferentiated cancers are also unaffected by stilbesterol. A rather common autopsy finding is the presence of microscopic evidence of perineural lymphatic invasion by the prostatic cancer. This is the best microscopic evidence of malignancy.

Chemistry

The Guttmans[4,5] in 1938, showed that the prostate was an essential producer of an enzyme, phosphatase. Charles Huggins[6,7] in 1939. and others, have shown that androgens cause metaplasia of the prostatic epithelium, stimulate cancer growth, and increase serum acid phosphatase. The elevated serum acid phosphatase level in prostatic carcinoma is further raised by the administration of androgens. Castration, and to a lesser extent, estrogens, diminish cancer growth, and also the serum acid phosphatase in from 80 to 90 per cent of patients. In patients that show a favorable response to orchidectomy, there is a return of elevated serum acid phosphatase to normal, or nearly normal, within 24 to 48 hours. The finding of an immediate increase in serum alkaline phosphatase following orchidectomy, indicates osteoblastic activity, presumably in the region of the osseous metastases. However, after castration, the androgens from the adrenals or from elsewhere, may still stimulate cancer cell activity.

The stages of the onset and development of prostatic cancer can often be paralleled by the level of serum acid phosphatase and may be summarized as follows:

1. When an isolated nodule of carcinoma is present in the prostate and there are no metastases, the acid phosphatase level is normal.

2. When metastases are present, due to carcinoma of the prostate, although the patient may be asymptomatic, the acid phosphatase is elevated above 10 units. This alone justifies a diagnosis of metastases, because the elevated alkaline phosphatase indicates the presence of osteoblastic activity.

3. Following orchiectomy, there is an immediate drop in acid phosphatase, and transient elevation of alkaline phosphatase, reflecting an attempt at repair of metastatic bone lesions. The clinical symptoms resulting from the metastases, may be entirely relieved.

4. After a remission of symptoms induced by orchiectomy, the symptoms may recur, indicating renewed metastatic activity, at which time the acid phosphatase again rises above normal.

5. At this point, a bilateral adrenalectomy may be considered, and if successfully performed, may produce a remission of symptoms, and a fall in acid phosphatase for a period of months. However, metastatic lesions do not disappear after such an operation.

The Relationship of Steroids to Carcinoma of the Prostate

Certain steroids have their origin in the adrenals and others in the testes. Studies have shown that the 17-Ketosteroids are essentially the same in amount in normal aging patients, and patients with cancer of the prostate. Before castration, the level of 17-Ketosteroids in the urine as reported by Scott is 7.6 mg. for 24 hours. After castration, the level is greatly lowered, but is then followed by a rise which is thought to be due to adrenal activity, since the adrenal gland is the main remaining source of steroids, in the absence of the testes.

The Use of Cortisone in Far Advanced Carcinoma of the Prostate

As previously noted, carcinoma of the prostate is influenced in its growth by the presence of androgenic substances. It has been clearly established that by controlling the androgens, progressive growth of many of these tumors can be controlled. With orchiectomy and the use of estrogens, a remission of symptoms due to carcinoma of the prostate usually occurs. If, however, the tumor begins to grow again, it becomes necessary to eliminate the remaining source of androgen in the adrenal cortex. The weight of evidence at this time indicates that cortisone is of vital importance in the management of advanced cases of prostatic cancer, after orchiectomy, where estrogen control is not longer effective. Undesirable side effects from cortisone therapy can be quite serious and these patients must be carefully followed while under such therapy.

Symptomatology

There are no early symptoms of carcinoma of the prostate. Therefore, to make a diagnosis early requires frequent rectal examinations. Whenever symptoms appear, the disease is already in a late stage. The various symptoms in the order of frequency, have been enumerated by Barnes[3] in 1940, in the course of an analysis of 664 cases of prostatic cancer.

Clinically, it may be helpful to classify symptomatology in patients with carcinoma of the prostate, into three groups.

1. Early group—Symptomless.
2. Second groups—Simple symptoms of prostatism.
3. Third group—Symptoms due to metastatic lesions.

The general practitioner carries the responsibility for making an early diagnosis of cancer of the prostate. This is easy because nothing more then the index finger is needed to detect an early case of prostatic cancer. The small, hard nodule in the prostate must be differentiated from the nodule of chronic prostatitis, which is usually more diffuse and not fixed. The presence of prostatic calculi, can be diagnosed radiologically.

Final diagnosis of a nodule, however, is made by open biopsy (perineal) and histological examination of the tissue excised. Negative needle biopsies cannot necessarily rule out carcinoma, because one may have failed to aspirate the involved area. Flat X-ray studies of the abdomen and pelvis should be made in every suspected case of carcinoma of the prostate. Cystoscopic examination is non-contributory, except in the late stages of the disease, at which time the urethra has become fixed. The serum acid phosphatase reading in the early stages is normal. The cytologic examination of the prostatic smear may be a useful addition to the other methods of diagnosing carcinoma of the prostate. To date, this diagnostic procedure has not been reliable in our hands.

Treatment

Treatment consists of operation on the gland itself, castration and estrogens. Each of these three methods has its exponents, but if we are to cure cancer, we must operate on the early lesion, and institute the other forms of therapy in those patients which are not suitable for surgery. In those patients with an early lesion in the prostate, about 50 per cent will survive five years following a radical perineal prostatectomy. The operative mortality is low. Certain complications are to be expected; about 15 to 20 per cent have some degree of transitory incontinence, while about five per cent have some degree of permanent incontinence, and nearly all become impotent. Occasionally, a urethral or rectal fistula results, which can subsequently be closed.

Radical retropubic prostatectomy produces an equally good result, and some urologists, namely, Chute in this country, and Millin in England, are very enthusiastic about this surgical approach, and more patients are being so treated throughout this country. The incidence of incontinence with this procedure is claimed to be less than that with the perineal approach. However, the incidence of osteitis pubis by this approach, has been more often reported in the literature, although, Millin, in his experience, has not found this to be true in his series of cases.

In those individuals with advanced carcinoma of the prostate who are not suitable for radical procedures, our objective is relief of pain, and relief of obstruction, if it exists. This has been best substantiated by Nesbit and Baum[16] who presented a statistical survey of 1,818 cases of carcinoma of the prostate subjectd to endocrine therapy. In a series of 324 cases without metastases subjected to castration and estrogen, 20 per cent lived five years; those who did not have any endocrine therapy, six per cent lived five years. If, after a patient has had castration, and endocrine therapy, and there still occurs a relapse of symptoms, other forms of therapy have been attempted, which to date, have produced poor results. The various forms of therapy for consideration are as follows:

1. Bilateral adrenalectomy.
2. Hypophysectomy, surgical or by irradiation.
3. The use of Cortisone.
4. The use of Colloidal Gold (Radiation).

Bilateral Adrenalectomy

It has been well-documented that androgens are manufactured in the adrenal cortex, the testicle, and also in the anterior lobe of the pituitary gland.

It has been cited, that failure of response following orchiectomy and estrogen therapy can be due to the fact that the adrenals continue to produce androgens. In 1945, Huggins and Scott[8] reported their observations in cases of far advanced prostatic carcinoma who had a bilateral adrenalectomy. Later on, this procedure was carried out in 1952 by Huggins and Bergenstall,[9] Baker, Butter et al, Scardino et al, Morales et al, in 1955, who summarized their observations in 20 reported cases. It would seem that in 25 per cent of cases following surgery, there appeared a remission of symptoms, relief of pain, a gain in weight without evidence of edema. In all the patients, the disease progressed, and they died of the disease. As a whole, therefore, this procedure has not proven to be worthwhile, and at present, fewer and fewer adrenalectomies are being performed for advanced carcinoma of the prostate gland.

Radiation

Prostatic carcinoma is a relatively radio resistant tumor, but it has long been known that X-ray or radium therapy in sufficient dosage was capable of causing regression of the tumor. The problem has been, the avoidance of injury to the surrounding structures. The first radiation therapy was with radium, which was applied directly into the prostatic urethra through a catheter, and also by application directly into the prostate by needles and seeds, by way of the perineum. Although, there was some enthusiasm about this form of therapy, it was discarded as soon as hormonal therapy was introduced. Deep X-ray therapy was also used by some, especially for the relief of pain in bony metastases. In recent years, there has been renewed interest in radiation therapy, especially with the improvement in therapy machines, introduction of super-voltage therapy, and the availability of radio-active isotopes.

The first radioactive isotope to be used extensively was Au 198 (colloidal gold) used by Flocks et al. This isotope localized its radiation into the prostate by beta rays (95 per cent) and gamma rays (five per cent). The beta rays penetrate for only a short distance and have very little effect on surrounding structures, beyond a depth of more than three millimeters. This isotope in localizing its radiation effect primarily on the prostate, destroys the tumor, without destruction of tissue outside the sphere of the gland. A dose of 1.0 to 1.5 millicuries per gram of tissue, with a total dosage not to exceed 150 millicuries, is employed, because if more is used, gamma radiation become significant in amount and cause injury to the rectum. It is difficult to produce uniformity of radiation sufficient to destroy entirely any sizable tumor, and little hope is held that this procedure could become a potential cure for this type of lesion.

Other isotopes have been used, such as Chromic Phosphate (P32). This isotope discharges only beta rays. Chromic phosphate is no longer used because it produces a pancytopenia due to bone marrow depression.

Radioactive Yttrium (Yt90) is a new isotope used by Bukley et als.

The Cobalt Bomb has received a great deal of publicity. Radioactive cobalt (Co^{60}), is a pure gamma ray emitter, and has a half life of five years. Rusche and Jaffe report treating 15 cases of advanced prostatic cancer with the cobalt bomb.

Hypophysectomy for Carcinoma of the Prostate

Surgical hypophysectomy for advanced carcinoma of the prostate has been performed in several medical centers. The cases selected were those who no longer responded to orchiectomy, adrenalectomy, X-ray or hormonal therapy. This is an extremely heroic surgical measure, and the remissions produced are few, and are not sufficiently long-lasting to justify this procedure.

The rationale for this form of treatment is, that even with both adrenals and testes removed, a small amount of circulating androgen will still remain, as evidenced by the continued presence of reduced levels of 17-Ketosteroids which may be due, as suggested by some, to the presence of aberrant adrenal rests or other sources under pituitary control.

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THE CYCLIC PSYCHOSOMATIC FATIGUE SYNDRONE

. . . a new type of psychic energizer was used in 38 cases. 87 percent showed fair to excellent results.

F. ERWIN TRACY, M.D.
Middletown

PATIENTS complaining of fatigue, apathy, depression, inability to concentrate, and general lack of interest in life are seen frequently by all physicians. In the management of such depressed patients the first essential is to determine whether we are dealing with a mild, endogenous depression, or whether the depression is either the severe reactive type, or the manic depressive type. We may consider mild endogenous depression to be a little deeper than that which occurs with normal emotional fluctuations. These patients tend to pay too much attention to the little unpleasant events of every day life, and this becomes so marked that the patient complains of almost constant fatigue, or nervous exhaustion. The fatigue is seldom relieved by either sleep or bed-rest, but may frequently be benefited by exercise. The major problem of the physician is to change the negativistic attitude of these patients to a more positive outlook on life. The suicide potential is marked in the manic depressive patient, but is rarely found in the patient with mild endogenous depression.

Medical management of these patients is difficult. The episodes of depression tend to be cyclic, but they vary so widely in time that it is difficult to predict when improvement may be expected. The patients are not sufficiently ill to warrant use of electroconvulsive therapy, but they do need an effective and safe psychic energizer. A number of psychic energizers have recently become available. We have found most of these to be unsatisfactory, mainly because of side actions produced by the drugs. This is a report of our experiences with a new psychic energizer, Deanol* (2-dimethylaminoethanol), which has proved very satisfactory, and to be free of any undesirable side actions.

Methods and Materials

There were 38 patients in this study, 18 males and 20 females. The age range was 23 to 72 years in the males, and 32 to 84 years in the females. The backgrounds varied widely, ranging from housewives to newspaper editors and college professors. All complained of nervous exhaustion and fatigue. This was not helped by rest, since six to eight hours of sleep (natural or induced) did not produce a feeling of restoration. Their fatigue did not come from physical exertion but from nervous tension which gradually developed into a mild type of endogenous depression. In addition, complaints of headaches, often of migrainous nature, and of gastrointestinal symptoms of obscure origin as well as symptoms of hyperventilation were frequent. Complete G.I. series on the patients with gastrointestinal symptoms did not reveal organic lesions of the G.I. tract. Complete physical examinations, including routine blood and urine laboratory tests, fluoroscopic X-ray of heart and lungs, and Papanicolaou cervical smears on all females failed to reveal an organic basis for the complaints in any patient. All of the patients were from the group of private patients who have annual physical examinations and had been treated with various types of medication. Among these were ergot preparations for migranious headache, multi-vitamin combinations, and various stimulant drugs. With the exception of ergot preparations for aborting or ameliorating migrainous headaches results of these agents were generally unsatisfactory.

The average dosage of deanol (given as Deaner®) was 50 mg. per day, usually taken in the morning after breakfast. This dose was well tolerated, side actions were mild and observed in only two patients.

Results

The clinical response was excellent in 12 (32 per cent); good to fair in 21 (55 per cent) and negative in five (13 per cent). Thus, the results were fair to excellent in 33 of the 38 patients (87 per cent). This is the highest rate of good clinical response that we have seen from any therapy that we have used, and was particularly gratifying to the patients.

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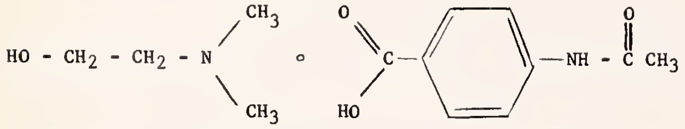
* Deanol (Deaner®)—Riker Laboratories, Inc., Northridge, California.

The drug is exceptionally well tolerated. Only two patients complained of overstimulation, jitters, and insomnia. Reduction of the daily dose eliminated these minor side reactions. Three patients reported an increased diuresis when the drug was first started, this was not present after three or four weeks of therapy. One patient, who reported that Deaner® produced insomnia had previously reported a similar effect from a potent barbiturate. In general, the side effects were usually seen in the emotionally unstable patients.

Discussion

My interest in deanol was first aroused by a report by C. C. Pfeiffer.[1] Shortly after reading this report, I had an opportunity to hear Dr. Pfeiffer discuss this drug and became interested in this new psychic energizer. Most antidepressant drugs are either monoamine oxidase inhibitors or sympathomimetic, but deanol is neither, the chemical formula being:



According to a hypothesis by Pfeiffer, et al., (1) deanol acts directly upon the central nervous system by increasing the acetylcholine level in the brain. Studies with C^{14} labeled Deaner® indicate that the drug crosses the blood-brain barrier and may be converted intracellularly into acetylcholine. (2) A number of studies[3-5] indicate that Deaner® is remarkably nontoxic; animal studies indicate that 100 times the usual daily dose for humans can be given parenterally to animals, and is well tolerated.

The inherent difficulty of assessing the value of drugs in psychiatric patients is well known. Since these were all private patients, it was not practical to use either a double-blind technique or placebo controls, in assessing the clinical response. No effort was made to sell the patient on the virtues of the new drug, other than casually informing the patient that a new drug was being tried. Furthermore, the failure of previous therapies, well known to all these patients, was in itself a good control.

The patients who responded best to the drug are of a type familiar to every physician. Their major symptoms are apathy, fatigue, headaches, various vague gastrointestinal symptoms, hyperventilation symptoms and a feeling of "a tight band around the head." The symptoms vary in severity ranging from mild to severe, and the syndrome tends to be cyclic with alternating periods of exacerbations and remission. When started on Deaner®. a subtle, but significant change gradually takes place. The patients report that they sleep better, awake more refreshed, and their dispositions and ability to concentrate improve. Yet, there is no false sense of euphoria. In some cases, the family senses the change in the disposition of the patient even before the patients themselves are aware of it.

An advantage is that Deaner® does not provide quick stimulation, with resultant "let-down" feeling when the effect of a dose wears off. There have been no signs of habituation to the drug; most patients reduce the dose, or stop it altogether when they begin to feel normal, resuming again when another depressive cycle returns. Deaner® does not depress the appetite.

In our experience Deaner® has been the best drug for use in the treatment of the cyclic-psychosomatic fatigue syndrome and mild endogenous depression. It should not be used in severe reactive depression, or the manic depressive type and is not a substitute for ECT whenever this measure is indicated.

Typcial Case Reports

1. J.M., male, 34, newspaper editor. Chronic fatigue syndrome, headache, various vague G.I. symptoms. Always slow and lethargic as a child. Various diets, Ritalin, dexedrine and multivitamins were of little or no benefit. Deaner® started February 1958. A dose of 100 mg. daily produced overstimulation, but 50 mg. daily was well tolerated. The response was excellent, and he stopped the drug after three weeks. The sense of well-being lasted for another three weeks; when he again became depressed. The drug was started again, and he again felt vastly improved. He thought he might become habituated to the drug and stopped it as soon as he felt better. He became depressed in a few weeks, and again started on Deaner®. He now takes 25 mg. three times weekly; when under stress, he increases to 25 mg. daily. He is now seen every six months for check-up, and the improvement continues, he has more energy, sleeps better, is able to concentrate much better, and has not had any further periods of depression.

2. S. H. B., male, 55, college professor. First started on Deaner® in March 1958, for marked fatigue, following severe viral infection. He was trying to write a book, but found difficulty in concentration due to fatigue. After one week on Deaner®, 25 mg. daily, there was marked improvement. He is now able to do a full day's work with much less effort, is not tired all the time, sleeps bet-

ter and awakes refreshed, "feels better than I've ever felt before," and continues to take 25 mg. daily.

3. B. N., male, 41, business man. Cyclic psychosomatic fatigue syndrome, excruciating incapacitating migraine, twice weekly. Migraine usually relieved by ergot preparations, orally and by suppository (Wigraine). Started on Deaner® in March 1958, average dose 50 mg. daily. Patient reported results "fantastically good." After eight days, his disposition improved. He began to enjoy his work, sleep better, had better home relationships and became free from headaches. After three months, the drug was discontinued because of an emergency appendectomy. He has not resumed Deaner® since, and migraine is no longer a serious problem.

4. L. P., female, 30, housewife. Meniere's syndrome, neurasthenia, migraine. There was some improvement in the dizziness with Antivert and Bonamine after meals, but no improvement in the fatigue. Deaner® started March 1958, up to 100 mg. daily for six months, then reduced to 62½ mg. daily. There is definite improvement in the fatigue and migraine; and the patient still takes drug.

5. S. M., female, 33, housewife. Cyclic psychosomatic fatigue syndrome. Poor response to Dexamyl, Dramamine, Quiactin, Deprol, multivitamins. Deaner® started April 1958, up to 62½ mg. daily. Results were excellent. On vacation she forgot to take along Deaner® and there was prompt return of symptoms of nervous tension, fatigue, and inability to concentrate. Upon return home Deaner® was resumed, with abatement of symptoms within 72 hours. Patient was last seen October 1958; at that time daily maintenance dose was reduced to 50 mg. and the improvement continues.

6. L. R., female, 50, teacher. Cyclic psychosomatic fatigue syndrome, migraine. Previous therapy with Cytomel, Bellergal and Wigraine was of some help for the migraine, but not the fatigue. Deaner® started February 1958, average dose 50 mg. daily. Patient reports definite relief of exhausted feeling which had required forceful effort to accomplish high school teaching duties. Fatigue and migraine headaches are greatly improved, and she is still taking Deaner®.

7. J. M., male, 67, salesman. Extreme fatigue and apathy following cerebral thrombotic episode, marked vertigo. Vestran Forte, reserpine, multivitamins, and anticholesterol diet were of little help. Deaner® started in February 1958. Shortly afterward, he reported less fatigue, became more alert mentally. He sleeps better now, with a half-hour rest period each day. In July he returned to full time work as a salesman. Patient stopped taking Deaner® in September, and there has been no loss in improvement; was last seen in November.

8. W. C., male, 42, business man. Marked depression, tension, repressions, hyperventilation. Dexedrine, Ritalin, Cytomel and multivitamins were of little or no help. Requires barbiturates for sleep. Deaner® was started at 12½ mg. daily, patient complained that he felt overstimulated, was unable to rest for 48 hours, had occipital headache on the second day. It is very doubtful that the side reactions were due to Deaner®, since similar side reactions were reported after one dose of Butisol Sodium.

9. T. H., male, 42, college professor. Chronic pulmonary insufficiency, fatigue, depressive persecution complex. Previous therapy with androgens, gitalgin, 'Medihaler-Iso,' tincture of belladonna, and Doriden were only partially effective. Deaner® started June 1958, continued until September, no particular benefit noted, and drug stopped. Patient requested that Deaner® be started again in December, since he thought his fatigue was benefited. In this highly suggestive patient it is difficult to determine whether the drug was actually of benefit; but it is being continued.

10. J. R., male, 38, business man. Psychosomatic fatigue syndrome. Dexedrine, Ritalin, and Methedrine were of little help. Deaner® started September 1958, 50 mg. daily. Patient is improved, is less tired, and more alert mentally.

Conclusions

1. Deanol, (Deaner®) a new type of psychic energizer, has been used in 38 patients with the cyclic psychosomatic fatigue syndrome and/or mild endogenous depression.
2. Results were fair to excellent in 33 (87 per cent) and negative in five (13 per cent).
3. The dosage schedule is simple, the side reactions were not a problem.

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GRISEOFULVIN THERAPY OF SUPERFICIAL FUNGUS DISEASES

A wide variety of superficial fungus diseases are cleared by oral griseofulvin therapy.

Adverse effects of the antibiotic have been infrequent and mild. They have included headache, gastrointestinal distress, and skin eruption.

GUSTAVE SIROT, M.D.
New Haven

In 1939, Oxford, Raistrick and Simonart[1] described the isolation and chemical properties of a metabolic product derived from Penicillium griseo-fulvum Dierckx and proposed the name griseofulvin for this substance.

In 1946, Brian et al.[2,3] obtained a substance known as 'curling-factor' from Penicillium janczewskii which caused marked distortions in the development of the hyphae of the fungus, Botrytis allii. Short, stunted hyphae were produced in the presence of this antibiotic while somewhat lower concentrations produced lesser degrees of stunting, together with excessive branching and various kinds of distortion. In the presence of very low concentrations of 'curling-factor,' the hyphae developed a distinctive spiral curvature. Grove and McGowan[4] subsequently determined that the 'curling-factor' was identical with griseofulvin, previously isolated by Oxford and his co-workers.

Griseofulvin was shown to protect plants against fungi and was useful in preventing Botrytis infection in lettuce and Alternaria blight of tomatoes.[5,6] The antibiotic can be taken into plants through the root system and subsequently reaches the leaves.

A group at Glaxo Laboratories in England showed that griseofulvin had a high degree of activity against those varieties of fungi which attack the skin, hair, and nails of man and animals.[7]

Gentles[8] reported that guinea pigs infected with the ringworm fungus, Microsporum Canis, and treated with griseofulvin showed the protective effect of the antibiotic after four days of therapy. At this stage, only 50 per cent of the hair follicles of treated guinea pigs were infected, as opposed to almost all the hair follicles of the control group. In eight days, very few members of the treated group showed any sign of infection, while the control group had massive infection with the fungus. Wood's light examination of the hair of treated animals demonstrated fluorescence at the tips, and microscopic examination of the hairs indicated that infection was present only in this upper section of the hair shaft. There was a sharp demarcation between the infected hair tips and the uninfected proximal portion. Similar results were obtained by Gentles in guinea pigs experimentally infected with Trichophyton mentagrophytes. Examination of the hair of guinea pigs treated with griseofulvin revealed the presence of the antibiotic in the hair. Half of the griseofulvin was extractable with cold water, suggesting that this portion might simply be adhering to the surface of the hair, while the remaining half had been incorporated into the hair substance.[9]

Martin[10] experimentally infected guinea pigs with Trichophyton mentagrophytes and measured the effect of local and oral griseofulvin on the edema produced in the animal skin by the infection. He found that oral therapy was very effective in reducing edema at the end of eight days and that local therapy was also effective, but to a lesser degree.

Calves infected with Trichophyton verrucosum were effectively treated with oral griseofulvin by Lauder and Sullivan.[11]

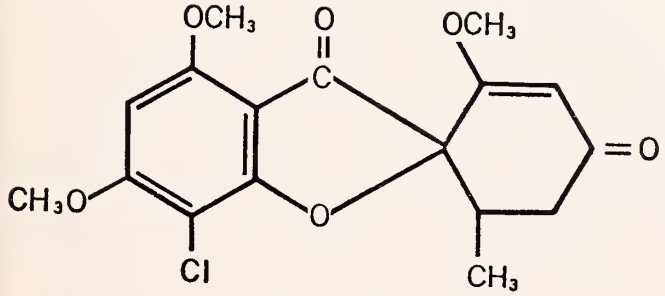
The first published report of the use of griseofulvin in fungus disease in man appeared in Lancet in December 1958.[12] Williams, Marten, and Sarkany issued a preliminary communication concerning their experiences in a series of nine patients with Trichophyton rubrum infections of the skin and nails. The dosage used was 0.5 grams four times daily. Rapid relief of itching was noted where it was present and, in three cases, there was reappearance of sweating of the palms which had previously been absent for many years. In two to three weeks, the thick scaling of the palms disappeared, and the skin resumed its normal appearance. In regions where the skin was relatively thin, such as on the buttocks, the fungus was absent after two or more weeks of therapy, but a longer interval was needed for clearing of hyphae from the soles. Indigestion was noted in one patient taking the medication, and two others complained of increased thirst.

Blank and Roth[13] reported their experiences with griseofulvin in a series of 31 patients suffering from fungus diseases of the skin. Infections with Trichophyton rubrum, Trichophyton mentagrophytes, Trichophyton tonsurans, Microsporum audouini, Microsporum canis, and Epidermophyton floccosum responded to griseofulvin therapy. The antibiotic had no effect on infections caused by Malassezia furfur, Candida albicans, or Blastomyces dermatitidis. In most cases, negative cultures were obtained in two weeks or less. In vitro studies by these authors indicated that the following organisms were inhibited by 0.2 micrograms-0.4 micrograms of griseofulvin per milliliter: Microsporum canis, Microsporum gypseum, Microsporum audouini, Epidermophyton floccosum, Trichophyton tonsurans, Trichophyton gallinae. Trichophyton rubrum was found to be the most sensitive of this group of dermatophytes. On the other hand, the following organisms were found to be insensitive to 30 micrograms of griseofulvin per milliliter: Candida albicans, Cryptococcus neoformans, Sporotrichum schenkii, Hormododendron compactum, Philalophora verrucosa, Blastomyces brasiliensis, and Histoplasma capsulatum.

Local application of griseofulvin has been reported to be ineffective by Peterkin.[14]

Chemistry

Griseofulvin is a colorless, thermostable compound with a bitter taste and has the following structural formula:



Griseofulvin

It withstands autoclaving in solution and is stable in dry form for 20 months at 100° F. Its solubility in water is 0.001 per cent; ethanol, 0.1 per cent; methanol, 0.1 per cent; and dimethylformamide, 12 per cent.

Report of Cases

A series of 24 cases of superficial fungus infections of the skin, hair and nails was treated with oral griseofulvin.* The results are summarized in Table I. Cultures and direct KOH examinations were performed every one to two weeks, and blood counts and urinalyses were performed bi-weekly. A dose of 250 milligrams four times daily was administered to each patient with the exception of Case 4, a five year old boy who was given 250 milligrams twice daily. Many of these patients had suffered from their infections for long periods, but this did not seem to make clinical cure difficult.

Fluorescence of infected hairs quickly diminished on griseofulvin therapy and then disappeared. Since the distal segments of the hair remained infected after normal hair had grown out proximally, each patient with scalp involvement was advised to have weekly close cropping of the hair.

Relief of symptoms when present occurred very quickly, usually well before clinical and cultural clearing of the eruption.

Infections of the skin and scalp cleared in from two to four weeks. Nail infections improved very slowly, and mechanical debridement of the nails was found to be of help in accelerating the improvement noted.

Side Effects

No adverse effects were noted in the blood counts and urinalyses done in the course of the administration of griseofulvin in this study. One patient complained of mild headache which appeared early in therapy, lasted for two days, and disappeared although the drug was continued. Another patient developed mild abdominal and flank pain which disappeared after a few days.

One of the patients in this series had a history of a previous penicillin reaction but had no difficulty on griseofulvin therapy. This corresponds with the findings of Blank and Roth.[12] One patient complained of frequency of urination.

Paget and Walpole[15] studied the toxicity of griseofulvin in rats and found that the lethal dose was high. When two grams per kgm. were given intraperitoneally for four days and the animals were killed and autopsied, it was found that the seminal epithelium was severely damaged and, in many places, completely necrotic. The intestinal epithelium showed less marked abnormalities. The MLD in rats was 400 mgm./kgm. of griseofulvin intravenously. Six hours after a single intravenous dose of 100 to 200 mgm./kgm., arrest of mitosis in metaphase was evident in sites of mitotic activity, especially in the bone marrow. Twenty-four hours

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* Supplied as "Fulvicin" by Doctor G. K. Hawkins of Schering Corporation, Bloomfield, New Jersey.

Table I

PATIENT	SEX	COLOR	AGE	DURATION INFECTION *Yrs.*	ORGANISM	AREAS INVOLVED	TIME TO CLEAR INFECTION *Wks.*	COMMENTS
1	M	W	34	15	T. Mentagrophytes	Feet	4	
2	M	W	53	20	T. Rubrum	Feet	4	
3	M	W	38	18	T. Rubrum T. Rubrum	Feet Nails	4	Nails almost clear after 16 weeks of therapy.
4	M	N	5	several wks.	M. Audouini	Scalp	4	
5	M	W	38	1 5	T. Mentagrophytes E. Floccosum	Feet Toenails	3	Little or no change after 6 wks. of therapy.
6	F	W	42	many	T. Rubrum	Feet	4	
7	M	W	57	many	T. Mentagrophytes T. Mentagrophytes	Feet Groins	3 2	
8	F	W	37	10	T. Rubrum T. Rubrum	Feet Toenails	6	Normal nail growing in (8 wks.)
9	M	W	34	12	T. Rubrum	Hands Feet	3 4	
10	M	W	42	many	T. Rubrum	Feet	2	
11	F	W	34	6	T. Rubrum	Fingernail		Nail improved after 6 weeks of therapy.
12	F	W	27	17 mos.	T. Rubrum T. Rubrum	Hands Toenails	3	Normal nails growing in (12 weeks).
13	M	W	32	15	T. Rubrum	Feet Buttocks & Groin	3 2	
14	M	N	43	8	T. Rubrum	Feet Buttocks & Groin	3 2	
15	M	W	35	14	T. Rubrum	Feet Toenails	3	Nails clearing (18 weeks).
16	M	N	9	2 wks.	M. Audouini	Scalp	4	
17	M	N	10	1	M. Audouini	Scalp	2	
18	F	W	27	6 wks.	M. Canis	Face	2	
19	F	W	39	4	T. Rubrum	Toenails		Normal nail growing in (14 weeks).
20	M	W		4	T. Rubrum	Buttocks		
21	M	W	16	1 mo.	T. Rubrum	Groins	3	
22	M	W	55	8	T. Rubrum	Buttocks & Groins Feet	2 3	
23	M	W	15	2 mos.	T. Rubrum	Groins	2	
24	F	W	36	many	T. Rubrum	Toenails		Nails improved greatly (16 weeks).

Griseofulvin Dosage 250 mgm. four times daily except Case 4 which received 250 mgm. twice daily.

after this single intravenous dose, the bone marrow was congested and contained little hematopoietic tissue. There was a profound drop in the number of circulating red blood cells and white blood cells. The cells arrested in metaphase showed disorientation and scattering of the chromosomes, such as is seen after colchicine administration. Recovery proceeded rapidly after 24 hours, although effects on spermatogenesis were evident for at least 10 days, and the rats appeared little affected in their general appearance.

Blank and Roth[13] observed one case of a possible urticaria-like drug eruption, together with several cases of headache and abdominal discomfort in their patients given griseofulvin. They noted no evidence of an antimitotic effect, and bone marrow examinations showed no significant changes.

Sulzberger and Baer[16] noted that headaches occurred during the early stages of therapy but disappeared within a week on continued treatment. Two of their patients complained of fatigue.

Several investigators[17] have found that griseofulvin has no effect on the sperm count or motility of sperm when administered in the usual therapeutic doses to man.

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Pride is an established conviction of one's own paramount worth in some particular respect; while vanity is the desire of rousing such a conviction in others. Pride works from within; it is the direct appreciation of oneself. Vanity is the desire to arrive at this appreciation indirectly, from without.

—ARTHUR SCHOPENHAUER, Pride

RATIONAL BLOOD REPLACEMENT IN THE SURGICAL PATIENT

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Assistant Clinical Professor of Pediatrics
Harvard Medical School.

DESPITE the dangers of blood transfusion, it is indispensable in an ever-increasing proportion of surgical cases. One must therefore learn to live with its problems, try constantly for better understanding of them, and lose no reasonable opportunity for decreasing the risks and increasing the effectiveness of this procedure. What follows is a brief review of the general subject of blood transfusion in surgical patients, and some more detailed comments on the avoidance of hemolytic reactions.

Preoperative Transfusion

It is apparently a quite generally held opinion that the patient's hemoglobin concentration should usually not be lower than about 10 grams per cent at the start of elective surgery. Crosby[1] pointed out that, if the blood volume is maintained, a hemoglobin concentration of seven grams per cent is sufficient for oxygen transport during surgery. Some margin of safety is obviously necessary, however, and 10 grams would appear to be a reasonable lower limit. There is no evidence that there is any added advantage to higher hemoglobin levels that would outweigh the risk of blood transfusion. If preoperative transfusions are given to raise the hemoglobin concentration, packed red cells should be used, the plasma being salvaged for other purposes. There is no advantage to using whole blood when the purpose is to increase the hemoglobin in a patient with normal blood volume.

Transfusion During Surgery

It has been repeatedly stated that transfusion should be avoided when possible while the patient is under anaesthesia, because the subjective symptoms of incompatible reaction cannot be noted then. This appears superficially to be logical and wise, but it cunningly conceals two extremely important considerations. Firstly, there is no excuse for giving incompatible blood: if the surgeon is not confident that the selection and crossmatching of the donor, and other procedures in the blood bank, are not completely reliable it is his own fault for allowing the situation to exist, and if something goes wrong he is legally responsible. He should check personally that the patient is getting the blood intended for him. Secondly, the only reasonable use of blood transfusion in connection with surgery is to prevent or combat shock, and if blood is really needed after surgery is started it is needed immediately, whenever blood loss threatens the integrity of the circulation.

Blood given during surgery should be whole blood, not packed cells nor plasma. If blood pressure falls without blood loss, pressor substances and respite from trauma should be given rather than blood. The amount of blood that should be given during surgery may be hard to calculate. The quantity of blood lost is often difficult to estimate, and blood volume cannot be determined with sufficient accuracy or convenience during surgery. The anaesthetist must do his best to evaluate estimated blood loss, trauma, pulse rate, blood pressure, and respirations, and give enough blood to maintain the circulation. I understand that improvement in diagnosis of impending shock would be welcomed by anaesthetists.

Postoperative Transfusion

As with transfusion during surgery, postoperative transfusion should be limited to that amount of blood necessary to combat shock, or to prevent

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Given at the Connecticut Clinical Congress, New Haven, September 30, 1959.

shock in case of postoperative bleeding. As Crosby[1] said, "blood is not a tonic," and "does not promote wound healing." Moderate, or even fairly severe anemia from blood loss postoperatively is usually better treated with iron than with blood transfusion. Ideally, postoperative transfusion should be quite uncommon.

One-Pint Recipients

A substantial proportion of transfused patients have received only one unit of blood, and it is perfectly obvious that any unnecessary transfusions will likely be concentrated in this group. Some have gone so far as to say that the patient who gets only one pint could surely have got along with no transfusion. This must often have been true, but it is unfair to criticise all such cases. Preoperative hemoglobin concentration below 10 grams per cent will often be adequately corrected with one unit of red cells. The anaesthetist must use his best judgment during the surgery, and give blood when he believes it necessary, and he may often find that a single unit of blood restores the patient's blood pressure to a satisfactory level. Similarly, a single post-operative pint of blood may greatly benefit the patient. In retrospect it will usually not be clear that the single pint was surely life-saving, but the same will usually have been true of the surgery itself, with no discredit to the surgeon. However, it should be the duty of the surgeon and the transfusionist frequently to review the indications they use for blood transfusion, to reduce as much as possible the incidence of unnecessary transfusions.

Dangers of Transfusion

Infectious hepatitis is always a threat whenever a patient is transfused and is impossible to guard against. Severe allergic reactions may occur in allergic patients, or occasionally in normal patients transfused with blood from allergic donors. 25 mg. of pyribenzamine given before a transfusion usually prevents an allergic reaction that would otherwise occur, and is recommended, (but only for allergic patients.) Bacterial contamination of the blood is always a possibility, though it is rare when sterilization of equipment is adequate, and phlebotomy technique good. Massive contamination of the blood, which is usually the result of failure to sterilize the bottles and the ACD solution inside them, is very likely to kill the patient. The dangers of transfusion are well reviewed by Mollison.[2]

Citrate is known to be toxic to humans in high concentrations, but it is of no importance in the patient who gets only one or two transfusions, and its importance even in massive transfusion therapy, such as exchange transfusion in the newborn, is still in dispute. Calcium gluconate reverses some of the effects of citrate, but the use of calcium itself has been blamed for some untoward reactions. When blood is stored, the potassium concentration of the plasma gradually rises. While theoretically this might be dangerous to a patient it seems rarely to have caused serious trouble, even in exchange transfusions of infants. Much needs to be learned about the possible chemical complications of blood transfusion.

Hemosiderosis is a possible complication of repeated transfusion therapy, but this would seldom be a cause for concern in the transfusion of surgical patients. Air embolism is a potent danger if proper care is not taken of the equipment and the administration of the blood. For this reason, collapsible plastic equipment is recommended, it being almost impossible to have air embolus while using plastic blood bags.

Danger from the Blood-Group Differences

The most important danger in blood transfusion, however, is caused by blood group factors and antibodies that may be produced to them. The "major" blood groups, O, A, B, and AB, are still responsible for a large proportion of serious hemolytic transfusion reactions. In such cases, the recipient is usually type O and the donor is some other type, and the error may have been due either to technical incompetence in performing the typing and matching tests (especially in small hospitals) or to "clerical" errors in which something was accidentally switched (especially in large hospitals). There are other blood-group antibodies, besides anti-A and anti-B, that may cause trouble in a first transfusion if cross-match technique is not adequate. These may have appeared spontaneously in the patient's serum (anti-M and anti-Le^a are well-known examples) or have resulted from exposure to fetal red cells during pregnancy. The physician can do nothing about these types of sensitization except to detect them and avoid transfusing the wrong type of blood, but he has an important obligation to avoid if possible the sensitization of his patient to still other blood-group factors by means of unneeded blood transfusion. I wish to dwell on this aspect briefly.

The number of antigenic blood-group factors is so large, that the recipient of a transfusion is very unlikely to escape exposure to at least one factor that may sensitize and lay the foundation for serious future trouble. The table lists the blood-group factors, reported up to September 1959, that can be detected by specific antibodies, nearly all of which have been found in human serums. Most of these blood factors are known to be able to cause transfusion reaction or erythroblastosis fetalis. The frequency of the trouble that one encounters due to a particular factor depends partly on its frequency. If the frequency of a factor is X, the chance of exposure by transfusion is X (1-X). To take an example, the chance of exposure to blood factor K of the Kell system is .09 (1—.09) = .09 x .91 = .08 (9 per cent positives, 91 per cent negatives; chance of exposure eight per cent). The chance of trouble depends partly, too, on the antigenicity of the blood factors. The strongest antigens are A, B, and Rh (D). G, K, k, c, and E, are moderately antigenic. H, C, f, M, S, and s are apparently relatively weak antigens. Some of the others are probably strong antigens, but there are few data on which to judge. N, Hu, He, and Le^b, have not been known to cause clinical problems. Many patients have been sensitized by transfusions, and later have had hemolytic reaction, perhaps fatal, with subsequent transfusion. Many have lost subsequent babies as a result. Such cases are especially tragic if the original transfusions were actually not needed.

As I shall show, there is no effective way to ensure that the recipient will not be exposed to some of the blood-group factors to which antibodies may be produced, short of withholding the blood entirely. When the blood is needed, the risk of sensitization must be accepted. It must also be kept in mind that sensitization produced by the first transfusion may not actually be detectable by serological methods until after a second transfusion that exposes the patient to the same blood factor, after which the rise of antibody titer may be so rapid and so great that the donor blood is entirely destroyed a few days after it is given, occasionally with serious consequences. The chance of hemolytic reaction can be minimized, however, by certain serological precautions and by the avoidance of dangerous donors.

How Much Blood Typing Should Be Done?

It is generally accepted that all donors and recipients should be tested with anti-A, anti-B, and anti-Rh (anti-D), and that apparently Rh-negative donors should be tested with anti-CD (anti-G) and with a powerful anti-D to detect the weak (D^u) variants. It should be required also that the serum of both patient and donor be tested against known bloods of type A and type B ("back typing" or "serum typing") for confirmation of the major group.

Rh typing is at best only about 99 per cent accurate, due partly to weak reactors, and partly to the techniques that must be used for routine testing. If there is doubt about the interpretation of an Rh typing test, the doubt is resolved in favor of the patient: if the subject whose typing is in doubt is a donor, he is called "Rh-positive"; if he is a patient, he is called "Rh-negative." Thus the same person might on one occasion be considered Rh-positive, and on another occasion Rh-negative. Recipients must not be tested with anti-CD. In my opinion, apparently Rh-negative recipients should not be tested for D^u because false-positives are not rare.

It is quite common practice routinely to retest Rh-negatives with anti-DE or anti-CDE. This practice should be discouraged, because it gives too little information of value in comparison with the false sense of security it engenders, and it is dangerous when done on the blood of Rh-negative recipients. An Rh-negative recipient is no less Rh-negative because he is E-positive (or C-positive). E is not one of the most dangerous blood-group factors, being less antigenic than c, K, or k, and probably no more antigenic than Jk^a, Fy^a, C^w, and some others. If one were to test routinely for E, c, K, k, Jk^a and Fy^a, in addition to A, B, D, and CD, he would have about 400 types to worry about instead of the present 8, and it is hard to see where one could reasonably stop, once started on this path. For routine purposes, as above, only anti-A, -B, -D, and -CD are recommended; the anti-CD for Rh-negative donors only.*

Cross-matching

There is less difference of opinion regarding proper cross-match procedure. Few would now argue against the stand that the "Coombs test" cross-match is desirable for routine cross-matches. This should be preceded by a "saline," or a "high protein," crossmatch, or both. The Coombs test is the best method of detecting most of the blood-group antibodies that cannot be detected by the old-fashioned "saline-match." Unfortunately, blood-grouping (and cross-matching) procedures are somewhat comparable in efficacy to the procedures for treating eczema: there are many methods, some very useful under special conditions. The best all-round method for clinical purposes is the Coombs test, but none of the methods, even the Coombs test, can be relied on in all situations, and sometimes no test is adequate. There is no present serological method of guaranteeing that a transfusion will not produce a hemolytic reaction, though the incidence of failure under ideal conditions must be very low. Better methods are needed.

High-risk Recipients

Those who have been sensitized by previous transfusion or pregnancy and have high titers or unusual antibodies in their sera are high-risk recipients. It is excellent blood-bank practice to test for sensitization in recipients or donors in whom there is reason to suspect sensitization, and even better practice to do such testing on all donors and recipients, using a panel of two or more carefully selected erythrocyte donors against which to test the serums.

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* Recent evidence indicates that any routine use of anti-CD is of doubtful value.

When sensitization is discovered in a donor, the blood should usually be discarded, or given to someone who can use the antibodies as a typing reagent. If the recipient is sensitized, special typing tests should be done to select donors of compatible type rather than relying entirely on the cross-match test. The cross-match in such cases must be done with especial care, since the antibody identified may not be the only one present in the patient's serum.

Identification of an antibody found by simple screening tests in the serum of a patient may be a serious problem in itself. More and more blood banks are becoming proficient in the identification of the more common antibodies, and the American Association of Blood Banks has organized a system of regional and national reference laboratories for the more difficult problems. Identification of all antibodies is an essential part of adequate blood banking.

Hospital blood banks should be urged to develop their own panels of persons whose red cells have been typed with as many of the rare blood-grouping serums as possible. Such panels are essential for identification of unknown antibodies (the blood types of the bloods that are compatible with the unknown serum indicate the antibody it contains.) They are very valuable as a source of "rare type" donors. Blood banks can purchase panels of fully-typed bloods from commercial sources for antibody identification, but if a compatible blood is found in such a panel he is usually not available as a donor, while members of the local panel would nearly always be available. Help in establishing such a panel in the hospital blood bank can be obtained at one of the larger organizations such as the Blood Grouping Laboratory of Boston.

Biological Test for Compatibility

In view of the admitted deficiencies of serological tests, the patient for whom compatible donors cannot be detected by the blood bank may have his problem solved by fairly simple biological tests. Perhaps the simpler of these is to give about 20 cc of blood from a possible donor and measure the increase, if any, of serum hemoglobin concentration[3] 15 or 20 minutes later. If there is an incompatibility that would cause a hemolytic reaction, a striking rise in serum hemoglobin is to be expected. This is a troublesome method in a patient with poor veins, since a difficult phlebotomy may result in considerable hemolysis, which cannot be distinguished from intravascular hemolysis. A second method is that of Mollison,[4] in which as little as 1 cc of blood, tagged with radioactive chromium, can be given to estimate compatibility. Obviously, this second method requires pretty fancy equipment, which is likely to be available only in the largest hospitals.

Dangerous Donors

Certain persons are dangerous donors, while the patient himself is the safest possible donor. The great majority of donors fall in between. A husband should always be considered a dangerous donor. If the wife has not already become sensitized to one of her husband's blood-group factors through pregnancy, she may develop such sensitization as a result of the transfusion, with tragic results in subsequent pregnancies. The husband should be avoided if other compatible donors are available.

The person who has himself had previous transfusions is potentially a dangerous donor, although the serological demonstration (by methods that include the Coombs test) that the donor was not actually sensitized by the transfusion is sufficient to remove him from the "dangerous" category.

Type O donors have long been used for transfusion of persons of other types. While this is generally safe, it is very wasteful as a routine practice. There is also the danger that a type O donor may have an unusually large amount of anti-A or anti-B which may destroy large numbers of the recipient's red cells if the recipient is group A, B, or AB. The use of type O's as "universal donors" should be vigorously discouraged except for unusual circumstances (the most common of which might be exchange transfusion in erythroblastosis fetalis.)

Rh-negative donors are sometimes considered also as "universal donors." This is potentially quite dangerous if the donor is sensitized to Rh. Consequently, if an Rh-negative blood is to be set aside for emergency use, it should have been tested and shown free of anti-Rh antibodies.

The Patient as Donor for Himself

In a substantial number of cases, a patient has donated blood a week or two before surgery, to be given back in case of need. There can be little doubt that a person's own red cells are less likely to be destroyed rapidly after transfusion than the red cells of someone else, and are free of the risk of sensitization to foreign blood factors. In patients sensitized to certain antibodies, compatible donors are difficult, sometimes impossible, to find, and the only chance of successful transfusion is with the patient's own blood, drawn in advance of the need for it. Successful experience with some patients of this kind suggests that the same procedure would be desirable in any patient facing elective surgery whose condition warrants it. It is believed that in a person with 11 or 12 grams per cent hemoglobin a donation for his own future use is far preferable to an infusion of blood from someone else. Needless to say, use of this technique would decrease the strain of blood procurement which plagues most blood banks.

Red cells lost through such donation are not completely replaced by new cells for about three weeks, but the height of the reticulocyte response indicates that six to 10 days after the donation, when the compensatory increase in blood production is in full swing,[5] would be a favorable time for surgery. Blood lost during surgery would presumably be replaced much more quickly than if the patient had not donated previously. Those who were on the anemic side at the time of the donation might obviously profit from some iron therapy.

It is urged that use of the patient as his own blood donor be tried on a wide scale. It is not a new idea, having been suggested by Fantus[6] in 1937. It should provide an important bit of added security for the patient, more than worth the slight extra effort it would cost the doctor and patient.

Conclusion

Improvements in the safety of blood transfusion lie not in doing more detailed blood typings, but in limiting the number of transfusions as much as possible, avoiding dangerous donors, taking special precautions with high-risk patients, using the best possible cross-match techniques, and eliminating errors of identification of patients, samples and bottles. It is impossible to guarantee in advance that a hemolytic transfusion reaction will not occur, even when no mistakes are made, and it is important to watch carefully for signs of reaction during and after the infusion of blood. Use of the patient as donor for himself, six to 10 days before surgery, is urged when this is feasible.

DISTINCT BLOOD-GROUP ANTIGENS AS OF SEPTEMBER 1959

System	*Antigens (figures represent approximate frequencies)*
ABO:	A .45, B .14, H .52
MNS:	M .79, N .71, M^g rare, S .55, s .89, U .999, Hu rare, He rare, Mi^a rare, Vw rare, Vr rare
P:	P_1 .79, P_2 .21, P^k rare
Rhesus:	D .84, C .70, c .80, C^w .01, C^x rare, E .30, e .98, E^w rare, f .64, G .85, rh_i .70, hr_i .80, V rare, Hr_o .9999
Lutheran:	Lu^a .08, Lu^b .998
Kell:	K .09, k .998, Kp^a .02, Kp^b .9999, Ku .9999
Lewis:	Le^a .20, Le^b .71
Duffy:	Fy^a .66, Fy^b .83
Kidd:	Jk^a .77, Jk^b .73
Unclassified:	Rare: Levay, Ven, Be^a, Wr^a, Di^a, By, Rm, Js Extremely common: Vel, I, Yt^a

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> *Trust not a man's words if you please, or you may come to very erroneous conclusions; but at all times place implicit confidence in a man's countenance in which there is no deceit; and of necessity there can be none. If people would but look each other more in the face, we should have less cause to complain of the deception of the world; nothing so easy as physiognomy nor so useful.*
>
> —GEORGE BORROW, Lavengro

SARCOIDOSIS

Perhaps Tomorrow Will Have The Answer

ALBERT S. FIELD, JR., M.D.
New Haven

SARCOIDOSIS has remained a puzzling and challenging disease ever since the original description by Bésnier in 1889.[1]

As "Boeck's Sarcoid" it is often associated with the name of Caesar Boeck who gave it the name sarcoid in 1899 because of its resemblance to sarcoma.[2] The etiology is unknown although it is regarded in some European centers as a variant of tuberculosis, an opinion based on the similarity of the microscopic appearance of the granulomata characterizing the two diseases. American physicians are unwilling to accept the tubercle bacillus in this role for many reasons, notably because the tuberculin test is negative in 65 to 79 per cent of cases,[3] the acid fast bacillus is rarely found in the lesions, the same type of necrosis is not seen in the granulomata of the two diseases, and inoculation of animals with the tissue of sarcoidosis fails to produce tuberculosis.

The disease occurs along the eastern seaboard, straddles the Appalachians and reaches out to the midwest. This also corresponds to the location of the forests of the nation and it has been postulated recently that allergy to a factor in the pollen of the pine tree may be the cause. This interesting idea has been advanced by Cummings and Hudgins[4] who, in a systematic study of various forest products, found that pine pollen has acid fast staining qualities and contains substances similar to those found in the tubercle bacillus. In addition, by injecting suspensions of pine pollen into normal and tuberculin sensitive guinea pigs, they were able to produce epithelioid cell granulomata containing giant cells, but not acid fast bacilli.

The lesions of sarcoidosis are also granulomatous, composed of epithelioid cells, lymphocytes and giant cells. Within the giant cell are found inclusion bodies which do not occur in the giant cell of the tuberculous granuloma. A central necrosis occurs which is hyaline in type and can be distinguished from the caseation of tuberculosis. That these lesions are not specific is illustrated by their resemblance to those found in leprosy, brucellosis, syphilis, histoplasmosis, coccidioidomycosis, kala-azar, lymphopathia venereum and their association with mineral particles and beryllium.[3]

Sarcoidosis occurs equally in both sexes, usually between the ages of 20 to 40. It has been reported as being 16 times as common in Negroes as whites.[5] Its course has been compared to that of tuberculosis or syphilis; its distribution to Hodgkins disease. Unlike tuberculosis, it avoids serious surfaces and the adrenal gland but is found in the myocardium. Any system of the body may be involved with considerable variation in the manifestations. The purpose of this paper is to review briefly its pathology and symptomatology.

The earliest descriptions dealt with the skin lesions which are common and take several forms. Small discrete nodules, yellowish or purplish, are often observed. Large, flat, scaly plaques resemble psoriasis in appearance and distribution. At times purplish, red conglomerate masses are seen. The latter, combined with osseous lesions, compose the disfiguring and fortunately rare entity known as lupus pernio. Osseous lesions occur in less than five per cent[6] of cases and may be found on X-ray examination of hands and feet as small punched-out spaces in the small bones. The oculoglandular form of sarcoidosis, uveoparotid fever, was described in 1909 by Heerfordt[7] whose name is often linked with it. This unilateral or bilateral involvement of the parotid glands is associated with eye

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From the Cardiopulmonary Section, Department of Internal Medicine, Yale University School of Medicine. This article is based on a discussion sponsored by The Connecticut Trudeau Society and given at St. Vincent's Hospital, Bridgeport, June 6, 1959.

lesions, particularly uveitis, iritis, nodules of the sclera and neuroretinitis. The lachrymal glands may be included and seventh nerve paralysis is frequent. The latter is transitory or permanent while the eye lesions may heal or progress to blindness. Other cranial nerves affected by sarcoid are the third, fifth, and eighth. Dysarthria, vocal cord and soft palate paralysis, with dysphagia and hypesthesia of one side of the tongue have been described. Invasion of the pituitary system by the lesions of sarcoidosis at the base of the brain produces the clinical picture of diabetes insipidus.

One of the most common clinical manifestations is lymph node enlargement which may be detectable in 86 per cent of cases.[3] The nodes are three to four cm. in size, separated, firm, movable and nontender. Tonsillar hypertrophy is an example of the lymphatic system involvement. Erythema nodosum is frequent. This syndrome is characterized by painful erythematous areas on the skin of the extremities with fever, malaise, polyarthritis and hilar node enlargement. In a series of 66 patients with sarcoidosis there were 28 who had symptoms of the disease and 13 of these presented with erythema nodosum.[8] Enlarged hilar nodes may be seen on chest X-ray with or without pulmonary lesions. The lungs are often involved as only lymph node hypertrophy exceeds the pulmonary lesions in frequency. This, of course, leads to the necessity of differentiating the disease from pulmonary as well as glandular tuberculosis. Miliary nodules may be found radiologically as well as linear streaks, or large nodular shadows which occasionally become confluent. The onset is insidious and the course is one of exacerbations and remissions. Healing occurs, though slow or rapid progression with development of cor pulmonale and congestive failure may ensue. In addition to being secondary to the pulmonary disease, heart disease may result from direct involvement of the myocardium and endocardium, producing heart block, cardiac enlargement and failure. Pulmonary function tests have revealed several alterations from normal. The changes are hyperventilation, poor gas distribution, alveolar-capillary block, and low residual volume which improves after use of bronchodilator drugs.[9] These tests are useful in diagnosis, estimation of pulmonary impairment by the disease and the effect of therapy on its course.

Lesions occur so frequently in the liver that biopsy of this organ is as important as lymph node biopsy in establishing the diagnosis. In one report there were 15 positive liver biopsies in 15 proven cases, while of five cases in which the diagnosis was presumptive none was positive.[10] Liver function abnormalities attributed to the lesions are retention of bromsulfalein, elevation of alkaline phosphatase and plasma proteins with a gamma globulin peak in the electrophoretic pattern. The serum calcium may be elevated and nephrocalcinosis with renal damage is seen.[11] A normal serum phosphorus makes hyperparathyroidism unlikely. The spleen is enlarged to palpation in less than 25 per cent of cases. Anemia, when it occurs, has been attributed to hypersplenism. Recent reports suggest that the serum uric acid may be elevated.[12] There is no leukocytosis but the blood smear may show an increase in moncytes with eosinophilia of six to 35 per cent. Although fever is often absent a temperature of 101 to 102 degrees is not unusual.

The diagnosis is based on a clinical picture that suggests the disease as well as laboratory findings and tissue biopsy that are consistant. The Kveim test[13] has been used rather widely as a diagnostic aid. It consists of the intradermal injection of an emulsion prepared from lesions of sarcoidosis. A positive test is characterized by a small painless nodule with a white scaly center. As this may take one to 12 months to appear its value is limited. It is important to differentiate this disease from tuberculosis, because of the value of corticosteroid compounds in the treatment of the more serious forms of sarcoidosis. Cortisone and ACTH have a favorable effect on fever, skin lesions, tonsilar lesions and biopsies. In the bronchopulmonary form of the disease they can produce remarkable improvement in respiratory function and chest X-ray, especially if fibrosis and irreversible changes have not yet taken place.[14] They may have an unfavorable effect on tuberculosis. If there is reason to suspect tuberculosis is also present the use of steroids should be covered with the antituberculous drugs such as isoniazid, paraaminosalicylic acid, or streptomycin. Such a situation is seen in the patient whose previously negative tuberculin reaction becomes positive.

Seventy years after its first description, sarcoidosis remains an enigma whose exact nature continues to tantalize the minds of physicians. Complete understanding is still just beyond reach in spite of the refinement of investigative techniques and diagnostic tools. Perhaps tomorrow will have the answer.

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More Speed, Less Haste

In the preanesthetic era, the admired surgeon was the speedy craftsman who could cut to the minimum the amount of time a patient had to endure an operation. But long after the need had gone, some surgeons considered speed as "the epitome of the craftsman's endeavour." Yet "what was necessary speed in the 19th century can be rated only excessive haste today when fluid restoration, and modern anaesthesia have relieved surgeons of the need to keep an eye on the clock."

Kocher introduced a leisurely approach; but his influence in Europe was small. Halsted's influence prevailed; and his pupil Harvey Cushing won many disciples for speed in surgery.

Information on correlation between mortality and duration of an operation should be judged with reserve. For example, an advanced lesion may require more time for the operation. Of course, long operating time has been shown to be "associated with an increase in cardiorespiratory complications and, surprisingly, with anastomotic dehiscence. . . ."

". . . Speed in itself need be neither damaging nor dangerous," and it might be well again to develop the art of speed, which sometimes is essential. For a patient undergoing surgery with an oxygenator pump, "the less time spent with the heart stopped the better." Various reasons, including danger of sepsis, call for "reasonable dispatch in surgery."

"In many operations there is a time for unhurried deliberation and a time for rapidity," and the new surgeon should strive for both. "Haste is the weakness of the tiro, speed the achievement of the experienced." The surgeon must have his objective in mind and make a direct approach to his task without taking unnecessary detours. "Thus some of the most careful surgeons are also the most rapid; and not a few relieve their inner tension by soliloquy at the same time. . ." *(Lancet 1:582, March 12, 1960.)*

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Editorials

Health Insurance

Every doctor who was in practice prior to the widespread use of prepaid hospital insurance is well aware of not only the increased willingness of people to go to hospitals but their insistence on admission to hospitals when non-hospital care could well meet the situation.

The philosophy that "you must collect to win" is not only increasing the premium for insurance to those who abuse health insurance but also those who do not and this is also one of the causes of the present shortage of hospital beds—a serious problem which can lead to the necessity for more hospital beds with increase of hospitalization insurance premiums.

It is futile to urge doctors not to permit their patients to go into the hospital unless the doctor determines that hospitalization is necessary. Already most hospitals are determining what cases will be admitted and certainly doctors who have urgent surgical cases awaiting hospitalization are not willingly going to see these beds taken by persons who could just as well be cared for outside.

Prepaid hospital care has been a boon to everyone but like everything which has much good there are attendant evils.

D. S. O'C.

Athletes' Heart

In the early editions of his classical textbook on internal medicine William Osler cited the case of the celebrated racing greyhound Master Magrath as an example of athlete's heart, for the postmortem on that well-known canine showed tremendous cardiac hypertrophy. In this year of the Olympic Games, which has been preceded by the breaking of records by several long-distance runners, it seems appropriate to review once more this subject for William Osler also commented on the desirability of resurveying our knowledge of diseases from time to time. It happens that at a recent meeting of the Society of Physicians in Vienna, Drs. L. Slapak and L. Prokop reported on enlargement of the heart in athletes.* These observers pointed out that, while relatively frequent, cardiac hypertrophy was not universal in athletes. In the past it was usually assumed that it was most likely to occur in long distance runners and in oarsmen who took part in the longer boat races. The condition develops gradually over a period of years and leads to demonstrable clinical changes and also to alterations in the roentgenogram, the kymogram and the electrocardiogram. In the apical area either a lateral plateau formation or a silent zone may replace the normal sharp point, which, however, may disappear when the cardiac strain of the athletic effort has been removed. Various knee bending tests or modifications of Master's step test may show abnormalities as may also the pulse and blood pressure. However, the value of single tests is inconclusive as the changes may be the result of a purely temporary disturbance. A decision should be based only on a combination of the various procedures mentioned, and it should be borne in mind that the prognosis is frequently favorable. The fact that changes can occur makes it essential that athletic trainers and even the parents of teenage athletes should be adequately instructed by their medical advisers.

G. B.

Thrombophlebitis as a Clue to Hidden Malignancy

The idea that thrombophlebitis may occur in patients with unsuspected malignancy is not a new one.** Early in the century French clinicians attached some importance to the fact that multiple thrombi might occur in patients with occult cancer of the stomach. Mannaberg claimed that about 20 per cent of all thromboses are associated with neoplasms, but Haward's analysis of another group of cases showed only 13 per cent. While the pathological physiology of thrombophlebitis is a complicated subject, the clinical recognition of the lesion is usually not difficult. The subject has recently been reopened by a report of Kenneth R. Wooling and Richard M. Shick.† They refer to some more recent work of Sproul who found that multiple venous thromboses were much more frequently observed in cancer of the pancreas than in other forms. Their analysis of the salient data in 15 patients who had cryptic malignant lesions with thrombophlebitis showed that this could occur in cancer of several organs: the pancreas, the ovary, the stomach, the lung, the breast, and probably the prostate. They emphasize the necessity of trying to reach a conclusion as to the particular associations of thrombophlebitis when this condition is diagnosed. The practical consideration is always to consider the possibility of hidden malignancy in such patients. Their article is timely because, as some cynic remarked, "The new things in medicine are the things that have been forgotten."

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* J.A.M.A., Foreign Letters, Vol. 161, No. 16, p. 1579, 1956.

** See Osler's Modern Medicine, 1908, Chap. XII, Vol. IV, p. 516, First Edition.

† Proc. Staff Meetings Mayo Clinic, 1956, Vol. 31, No. 8, p. 227.

G. B.

Food Faddism—A Problem

Food faddism is becoming an increasingly serious problem because faddists – capitalizing on food's emotional and symbolical values—appeal to the public's hopes, fears, and superstitions. There are two general kinds of food faddism—individual and collective. The former stems from acute or chronic psychological aberrations. A good example of this is the craving for cornstarch, clay, chalk, charcoal, or tree bark, usually associated with pregnancy.

Collective food faddism, however, is group acceptance of a stereo-typed dietary practice designed to improve health or cure disease. This includes belief in the following food fallacies:

(1) Ascribing to a single food or group of foods a special attribute or power which is out of proportion to its nutritional content. Foods widely promoted in this manner include; yogurt, black strap molasses, wheat germ oil, brown sugar, "live" honey, and seaweed.

(2) The belief that only fresh fruits and vegetables grown from fields with organic fertilizers are nutritionally adequate, whereas, exhaustive biochemical analyses have failed to disclosed any significant nutritional differences between foods grown with chemical or organic fertilizers.

(3) The dangerous belief that certain foods, or systems of dieting, have a specific value out of proportion to the established facts of diet therapy in the treatment of certain diseases. Cultists advocate, for instance, drastically restricted menus in the treatment of obesity—"bananas and milk," "steak and prunes," "raw tomatoes and hard boiled eggs," etc.

To combat food faddism effectively, there should be an educational program which would present, in an interesting manner, facts about nutrients, food values, diets, and diet therapy without minimizing the symbolic value of food. The family physician should be the first court of appeal in matters of proper nutrition.

Antimalarial Drug Used To Treat Circulatory Ails

An antimalarial drug has been used with some success in treating patients with heart and circulatory diseases, a Cleveland physician reported in the Journal of the American Medical Association.

Dr. Benjamin P. Madow of the department of medicine, Mount Sinai Hospital, Cleveland, said he prescribed the drug because of its proven ability to "desludge" the blood of malaria victims.

"Sludging" occurs when normal components of the blood, the red blood cells, begin to stick together in groups and hinder circulation by plugging small veins and artery branches. The process often is a complicating factor in heart attacks, angina, and cerebrovascular accidents.

Dr. Madow described the results obtained in treating 44 patients suffering various vascular diseases accompanied by sludging with the antimalarial drug hydroxychloroquine (Plaquenil) sulfate.

He said the drug increased blood flow, reduced the number of blocked vessels, and reduced the size of the clumps of red blood cells.

He said it was significant that 11 of the 16 patients suffering angina gained some relief from the pain associated with the disease during nine months they were maintained on the drug. All had been treated previously and unsuccessfully with the customary drugs, he said.

Twenty-two patients who had suffered heart attacks previously had no recurrences during nine months' treatment with the antimalarial drug, he said, but this could not be considered significant until a longer period has elapsed.

Dr. Madow said his preliminary findings indicate that desludging agents should be more extensively studied for their role in the treatment of vascular disease.

Trachoma Vaccine Being Tested on Formosa

A newly developed vaccine against trachoma, a centuries-old disease causing blindness, is being tested on Formosa where it was developed by U. S. Navy researchers.

A preliminary study of the effectiveness of the vaccine provides "some reasons for optimism," according to an article in the Journal of the American Medical Association.

Trachoma vaccine appears to be "entirely safe," the researchers said.

More than 450 persons have been given the vaccine without any serious reactions, they said, and it has produced significant immunity in monkeys and humans.

The vaccine produced in humans an antibody response equivalent to that produced by natural trachoma infection, they reported.

THE PRESIDENT'S PAGE

Last month, in my first message on the President's Page, I referred to "the public trust which may be called the professional status of the physician" and I affirmed that "whatever the type of remuneration, the professional status of a physician is an essential part of his effectiveness." Such trust, such status, in large measure is fostered by the group self-discipline which is characteristic of the medical profession.

It is essential that the patient have faith that his physician will measure up, in medical care situations, to the responsibility for wise and well-timed decisions and actions directed firmly toward the personal needs of the patient. It would be a mistake, however, for society to presume that physicians are all-knowing, all-powerful, all-loving Genii who await, utterly self-less, to be summoned in full power under any and all circumstances. Physicians are humans. They need the same types of incentives and crave the same types of satisfactions as all other humans.

Physicians of course derive satisfaction from the many opportunities to play vital roles in matters of personal security and welfare. They enjoy solving difficult problems in diagnosis and treatment. They fear and yet eagerly face the many challenges arising out of human health needs and they relish the feeling of achievement resulting from successfully meeting such challenges. They like being given responsibility for their own efforts. They are pleased by professional and public recognition. They are thankful that they are needed and wanted. They are warmed by expressions of gratitude from those they have helped.

These are important incentives; but, basically, they are the same types of incentives to which most people respond. Don't most people seek a sense of challenge and achievement, feelings of responsibility and recognition, the glow of being needed, of being thanked?

Is it at all surprising that physicians, in company with all people, respond to incentive economic systems? Many types of medical practice can be effectively rewarded by organizational recognition, salary status, regular vacations, regular hours of work, and various fringe benefits. But, for individual personal service situations which may arise at any hour of any day of any week, what economic incentive system has been developed that is more effective than the fee-for-service method of payment?

I have on hand an article by a professor of business administration* which challenges, in a somewhat technical but convincing analysis, the oft-heard argument that a reform in financing methods for medical care would lead to more efficient and better distributed medical services. Although the author carefully says that his comments "are not intended to be a defense of the status quo in medical economics," he does make the unequivocal statement that: "Important criticisms can be made of the fee-for-service method of payment, but economists should not be surprised to find that it, undoubtedly, is an effective incentive system."

John N. Gallivan, M.D.

**Price Behavior and Productivity in the Medical Market,* Joseph W. Garbarino, Industrial and Labor Relations Review, Vol. 13, No. 1, October 1959.

Special Article

A World Health Picture

Ira V. Hiscock, sc.d.
*Carnegie Visiting Professor, University of Hawaii**

Objective

Peace throughout the World is in our minds and in our prayers and on our lips, daily. Conditions of life are so much influenced by the levels of health that the attainment by all peoples of the highest possible level of health is a cherished goal on the pathway to Peace. In spite of contrasts in purposes in different parts of the World—a world that is full of complexities, fears, joys, and dreams—there is a growing insistent demand for health. Health can be a significant rallying point of common interest and unity by the people of all Nations who are fast becoming close neighbors.

Progress and Plague

Communicable disease cripplers and killers of yesterday have been nearly conquered in North America and Western Europe, including our 50th State of Hawaii. Here, too, the span of life has been prolonged, while growth in population has risen sharply at both ends of the age scale. Breath-taking strides have been made technologically and industrially.

But there are gaps and hazards and inequities. Developments in social science have lagged behind those in engineering while the doors of interrelationships of the parts of our community structures have failed to open widely.

Meanwhile, one-seventh of mankind are afflicted with trachoma; one-quarter are infested with intestinal parasites; one-tenth suffer from malaria (practically eradicated from the United States, Italy, and nine other countries); tuberculosis still exacts a heavy toll of unnecessary illness and incapacity; the common cold is everywhere; accidents at home, at work, and on the highway are staggering; the dysenteries, often fatal, especially in young children, are too prevalent for calculation; and problems of mental illness and retardation have only recently been attacked comprehensively. While hunger, disease, and ignorance are being assaulted in some places, terrifyingly rapid strides are being made in developing the means of either conquering diseases and improving living conditions or of mass destruction. One new concept of health which is being advanced widely relates to survival.

We may well ponder, but not too long, over the idea that we may be of the last generation to survive on the face of this Earth unless the younger members plan and act promptly and wisely and more effectively than those of us older members to prevent such disaster. Health is a Human Right but it has to be won.

Burdens and Barriers

One of the great barriers to progress is the attitude of the people, which is dependent so much upon communication and understanding. We know so little about what is really on the minds of people who are in hospital waiting rooms and in hospital beds and in meetings of various kinds, professional or otherwise, and in school and college classes and on the campus and on the beaches. How much does the patient understand the instructions of a doctor or a nurse, in the office or the home, or even in a magazine or newspaper. How confused can a person become who listens to or reads the high pressure advertisements of even this supposedly enlightened age and state? Complex also becomes the problem of the language barrier under many circumstances both at home and abroad. We can hardly overestimate the influence of customs, habits, and traditions, as well known by the so-called behavioral scientists, who are coming to play a larger role in health affairs.

Public health was only an infant in 1872 when Dr. Stephen Smith, eight other physicians and an architect, drew up plans for the American Public Health Association. Yet 22 years earlier the Board of Health of Hawaii had been organized—the first of the State Boards of Health. Some of the seaboard cities had local boards dating from the yellow-fever epidemics of the 1790's; but the health officers' weapons were crude. Panum's studies on measles, Snow's on cholera and Budd's on typhoid fever laid the foundation for scientific epidemiology. But the growth of controlled immunization had to wait for further studies of Pasteur and the tubercle and diphtheria bacilli were undiscovered. In those early days, someone removed the pump handle from the Broad Street well in London and stopped a devastating cholera epidemic without studying habits and attitudes of people and knowledge of the why! Now, much that is known by scientists is still not applied by the rest of the people.

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* Retired Chairman and Professor of Public Health, Yale University School of Medicine.

The great sanitary awakening was foreshadowed by Johann Peter Frank at the close of the 18th century and by a far-sighted group of French physicians in the early 19th century. The "modern" public health movement took shape as a result of the epoch-making report of Sir Edwin Chadwick in England, around 1850, followed promptly by a report by Lemuel Shattuck and his associates on a Sanitary Survey of Massachusetts—a classic with proposals applicable today.

These early pioneers recognized the vicious circle of poverty and disease. Men and women were sick because they were poor; they became poorer because they were sick; and sicker because they were poorer. Chadwick observed that London could not continue to exist half rich and half poor, half sick and half well. On a global basis in our 20th century, we do not know enough about habits and attitudes; but men realize that the united world cannot be built by constituent nations handicapped by overwhelming burdens of poverty and disease.

Furthermore, disease and insects and rats and viruses do not recognize boundary lines within a state or within a World. Yet one issue difficult to resolve, puzzling to many legislators (local, state, national) is the degree to which Our Neighbors' Health is Our Business. How can the *Why?* be better and more widely understood?

Is it clear to many that a public health program adapted to the individual needs of each geographical area offers the most economical method of breaking the chains of disease and poverty and initiating an upward cycle of social evolution? To do this, an analysis is essential of the most vital health problems, by each country, which may be attacked with maximum results at minimum cost. Likewise is needed the development of cooperative programs of technical assistance, in which the more fortunate areas may cooperate with those of less advanced development for the common goal of a healthful, prosperous, and peaceful world. The relation between poverty and disease is shown in a tabulation, now almost 10 years old:[1]

	AREAS		
SELECTED ITEM	DEVELOPED	INTERMEDIATE	UNDERDEVELOPED
Proportion of world population	One-fifth	Less than one-sixth	Two-thirds
Annual per capita income—U.S. dollars	461	154	41
Food supply, calories per day	3,040	2,760	2,150
Physicians per 100.000 population	106	78	17
Life expectancy at birth, in years	63	52	30

Nations like Sweden and the USA, which made the relatively small investment involved in a sound public health program, reaped a rich harvest in life capital. In certain other areas, as for example, nearly all of Africa, Egypt, India, Southern Asia, where the average expectation of life is low, a high proportion of children fail to reach the age of 15 and enter the period of maximum economic production. Others are incapacitated early. "Reduction of the death rate in the underdeveloped areas will mean an increase in the human resources available for production in proportion to population."[2]

Public health experts realize the impact of prosperity on human health, and that, for example, in a given area, higher crop yields, increased power developments, and improved transportation may accomplish as much for health as more clinics and hospitals. But comprehensive planning is necessary.

Business, educational and industrial leaders must understand simultaneously the basic importance of health for a stable economy. Few Chambers of Commerce recognize as fully as does the Honolulu Chamber the importance of a healthy environment for the attraction of tourists, the success of pineapple and sugar industries, and for the safeguarding of military establishments. Besides a wise program in his own field of endeavor, the health administrator knows of the importance of cooperative studies and joint action with experts on agriculture, on industry, on economics, and on education, with the health program properly interlocked in a larger total program of community betterment.

A Priority Problem

Perhaps the most significant trend in the public health program is a growing recognition of the fact that mental and emotional diseases and handicaps cannot be ignored as basic factors in the problem. The theme for World Health Day in 1959 was Mental Illness and Mental Health in the World Today. Legislation in many countries lags behind present mental health work and thus is possibly outmoded also as compared with existing community attitudes. The concept of the origin of mental illness and of mental retardation generally held within a community may profoundly affect attitudes towards the mentally ill. In one country, for instance, where sections of the population believe insanity to result from demoniacal possession, it is the devil that is hated rather than the individual, who is deserving of pity. Consequently, if the devil is driven out, the recovered person is more completely accepted back into the community.[3] In some communities, mental disorders are reputed to be mainly of hereditary origin, and the remark is commonly heard: "It is in the family." Factors of this sort and differences in knowledge and understanding may affect legislation regarding marriage, divorce and inheritance, as well as blocking program developments.

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[1] C.-E. A. Winslow, The Cost of Sickness and The Price of Health, World Health Organization Monograph No. 7, 1951, Geneva, Switzerland.

[2] U.S. Department of State (1950) Point Four: Cooperative program for aid in the development of economically underdeveloped areas. Washington, D. C. (Publication 3719, Economic Cooperation, Series 24.)

Thinking, behavior, and function considered to be normal in one culture may be considered as abnormal and even signs of mental illness in another. Some types of African magical thinking, for example, would be considered hallucinatory in Europe. "Fashions in abnormality—such as Arctic hysteria or running amok, the dancing mania of the Middle Ages, passing addiction to different types of drugs—may influence the ways in which people will become abnormal. Fashion is said probably to have had something to do with differences between the kinds of neurotic disorder observed in the First and Second World Wars. Related to questions of normality and abnormality is the role played by the patients' or persons' overt symptoms in influencing the attitude of the community. Unpredictable behavior sometimes provokes fear and rejection, over-aggressive behavior may arouse hostility, whereas quiet and withdrawn patients, at least, may be treated with pity or indifference.

In a number of countries, outpatient services have been considerably extended in recent years. The introduction of modern therapeutic techniques—psychological as well as somatic—has done much to improve care on an outpatient basis. In an attempt to reduce the admission rate to mental hospitals by providing expanded facilities for outpatient and domiciliary treatment, a two-year controlled experiment was carried out in a precisely described area in Great Britain, and the activities in the same area in 1956 serving as a control. In that year the admission rate to the mental hospital for the area was 82.3 per cent higher than in 1950. During the first six months of the experiment, in 1957, the admission rate was reduced by 60 per cent compared with the same period in 1956. However, this was only one of the aims: the other was to provide adequate and effective treatment, and this is believed to have been achieved. Another notable example of outpatient care is the extramural psychiatric service founded in 1930 in the canton of Valais in Switzerland. The services are itinerant and reach the smallest village in the canton. Generally, experience shows that the psychiatrist and his staff are the more easily accepted and appreciated the more they participate in outpatient work.

Many international organizations, such as ILO and UNESCO, and many University and research groups are engaged in research on the impact of industrialization (including automation) on communities and individuals. Their work is also concerned with the results of technological development in different regions of the world and in different types of communities. For practical purposes, the importance is emphasized of giving at least full attention to the human and social aspects of automation. An approach which is felt by workers or families to be excessively official, or bureaucratic, or overformalized, is unlikely to elicit data which are either reliable or useful.[4] The Fifth Report of the Expert Committee on Mental Health of WHO in 1957 contained this enlightening statement: "The adequately organized psychiatric hospital with its extensions into the social life of the community and firm links with the other branches of public health is a rational starting point and base camp for a truly efficient mental health service."

University of Hawaii Link

Hawaii's unique situation at the crossroads of the Pacific offers unusual educational opportunities for public health. Founder's Gate gives the signal with its inscription in the Hawaiian language, the translation of which is "Above All Nations is Humanity." Here with cultural interchange a prominent feature, where a goal of intercultural harmony is fostered, where educational and research resources are increasing, where a great East-West Cultural Center is on the horizon, where a new Institute of Health Research is in the offing, and where there is one of the best state health departments to be found anywhere, the opportunities for advancement toward our objective are unlimited. Dividends could be large.

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[3] Social Psychiatry and Community Attitudes, Seventh Report, Expert Committee on Mental Health, World Health Organization Technical Report Series No. 177, Geneva, 1959.

[4] Mental Health Problems of Automation, World Health Organization, Technical Report Series No. 183, 1959, Geneva.

[5] World Health Organization (1958), The first ten years of the World Health Organization, Geneva.

Illustrations of International Cooperation

The evolution of international cooperation in public health is familiar to many and beyond the scope of this presentation.[5] The mutual Security Program has been administered by the International Cooperation Administration, a semi-autonomous unit created under the Department of State. Our country is committed to the proposition that its own security and welfare can be assured by our working for peace in concert with the other free nations of the world. Three examples are selected from those of many countries.

The first ICA community development worker to enter the town of Cheung Krear in Cambodia in November of 1956 found the entire population of 392 families suffering from trachoma, and from other contagious ailments spread by use of polluted river water. Only a few of the 1,345 inhabitants could read or write. A year later the villagers with ICA technical help, had constructed more than seven miles of access roads, constructed a community center, put in 10 wells, dug pit privies, built 450 compost pits for fertilizer, planted 90 vegetable gardens, organized a crop storage cooperative with 192 families as members, and started a marketing cooperative of 382 families. Inoculations resulted in better health. More than 120 adults were enrolled in a reading class. Three handicraft industries had been established.

In free Viet-Nam (where Dr. Willard Boynton, formerly a physician in Bethel, Maine, and a public health graduate of Yale, directs the health and sanitation program) ICA helped organize 44 fishermen's cooperatives with a membership of more than 7,000, mainly Christian refugees from Community-held north Viet-Nam. Refugees were aided in self-help housing activities, supplied with cotton twine to make fish nets, and given materials to build boats. The refugees, by a do-it-yourself project, wound up building 143 good, seaworthy fishing boats in four months for less than the cost of a proposed purchase of 50 boats. In order to improve the health of the people living in rural areas, the mission in Saigon has assisted in the training of health workers who in turn help supervise several thousand village health workers.

In Indonesia it was shown that raising the standard of living of a newly developing nation involves more than just increasing food supplies. It includes improvements in health and education as well. In 1949, at the time Indonesia became independent, the country had only one doctor for each 100,000 of her 80 million people. In addition, facilities for training personnel had been wiped out by war. The medical School at Kjarkorta lacked the faculty to give the modern training that Indonesia wanted for her new doctors and surgeons. In 1954, with requested help of ICA, six American doctors were obtained through a contract with the University of California. Two of them already spoke Indonesian —the other four soon learned the language. The school in 1959 had 950 students and was graduating 140 doctors a year. Six other medical schools have been established.

Relationships

The United States is a member of two well-organized and highly effective international organizations which operate in the health field—the World Health Organization and the Pan American Health Organization. Each has active programs of technical assistance; and with ICA, worked out procedures to avoid duplication and to promote cooperation. Formal and informal meetings are held frequently between WHO, PAHO, and ICA personnel and also with officers of the U.S. Public Health Service and of the UNICEF (U.N. Children's Fund).

The World Health Organization recently compiled a report giving an assessment of the world health situation. This first document of its kind contains reports submitted willingly by countries all over the world, giving a picture of the state of health of each country and territory. The countries are thus keeping each other informed of their health resources, of available personnel, money and equipment.

Through channels of such processes as week-long Expert Committee Sessions of professional people from different countries, arranged by WHO, and the provision of specialist consultants loaned by one country to another upon request, and other measures, many barriers due to inadequate communication are being lowered. Another illustration is in the realm of hygiene and sanitation in aviation. In 1959, the Technical Report No. 174 included the following statement in a proposal that "Consideration be given by WHO to assisting governments with the establishment of demonstration projects, carried on in cooperation with the air transport industry, to show the benefits which will accrue as a result of the institution of a progressive and comprehensive sanitation program at any individual airport," and gave examples of projects which might be covered.

Among other acts of international collaboration are:

1. The International Sanitary Regulations of WHO
2. The International Pharmacopeia of WHO
3. The International Statistical Classification of Diseases, Injuries, and Causes of Death
4. The Inter-Country Malaria Program
5. Many other regional and inter-regional activities.

Some WHO Activities

Of all international organizations, the World Health Organization has one of the most universal memberships, with 90 member countries, three of which are associate (non-governing) members. WHO helps countries, as mentioned above, to improve health conditions, as illustrated by the assignment of expert personnel to give technical assistance and guidance to country health programs, training and fellowships, worldwide epidemiological and other services benefiting all countries, stimulation and coordination of research, and dissemination of information on advances in health and medicine. Last year, during 1959, WHO assisted nearly 800 projects in 124 countries and territories. Increased attention was given to areas which have had relatively little health protection in the past. The number of WHO-assisted projects in the African region alone increased from 12 in 1952 to 99 in 1959.

Among the 200 communicable disease projects assisted were those in the control or eradication of diseases which constitute a heavy burden in many areas. These included malaria, the dysenteries, the venereal diseases and yaws, tuberculosis, trachoma, smallpox, and schistosomiasis. Progress in malaria eradication was mentioned earlier. But mosquito resistance to insecticides continued to be a problem, with new resistance being encountered in the Philippines, Iran and Egypt. WHO assisted 16 leprosy control programs in countries of the Americas, South-east Asia, and the Western Pacific areas, and held a Leprosy Conference in Pacific areas, and held a Leprosy Conference in Brazzaville, Africa. That meeting stressed the need for rehabilitation and the return to society of noninfectious and cured leprosy cases.

As in previous years, WHO continued to help countries to build strong national health administrations and develop and improve local and rural health services. Attention was given to social and occupational health, nutrition, health education of the public, maternal and child health, sanitation, and nursing. Since 1947 over 11,000 fellowships have been awarded besides other grants to help develop better equipped health workers through plans for assistance to schools of medicine and public health and nursing and a wide variety of individual awards.

Each year, on April 7, WHO observes World Health Day to celebrate the day on which the Constitution of WHO officially came into effect, in 1948. Of great significance is the growing interest in Research. In 1958 the Eleventh World Health Assembly accepted a United States contribution of $300,000 for a study on the ways in which the Organization could play an intensified role in the international stimulation and coordination of medical research. The study was completed and presented to the Twelfth World Health Assembly in May 1959. At that time, the Assembly adopted a resolution adding $500,000 to the 1960 WHO research program and created a special account to receive voluntary contributions for WHO's interbudget to provide for the organization's intensified national research activities.

The Thirteenth Assembly met in Geneva in May 1960. The Assembly has received an invitation from the Minister of Health of India to hold the Fourteenth World Health Assembly in New Delhi in 1961. Meanwhile, the United States Citizens Committees of the World Health Organization meet periodically in different localities to take account of stock of opportunities and to help in the implementation of the well conceived and ably executed program of the World Health Organization of the United Nations. Is Connecticut active?

Tomorrow

Educational statesmanship is required for helping to prepare people for a dynamic not static public health movement in a time of rapidly changing conditions. Someone has said that there are always the enthusiastic hobby riders, prancing about on steeds long since too old for such violent exercise. Some are more reluctant to render service than to express discontent. The price of freedom is service, as we all know.

A new climate of thought is emerging concerning the unprecedented growth of population, with its economic, social and political implications. Recent reports and studies stress the need for all public health and related organizations concerned "to give increased attention to the impact of population change on health" and to facilitate action "consistent with the creed and mores of the family concerned."[6] What is Connecticut's role?

For tomorrow's satisfactions and stability, we need to continue efforts to improve communication and understanding, and to remove barriers of indifference, ignorance, fear and suspicion. We need faith in each other as we move forward, recalling Thomas Jefferson's words: "I know no safe depository of the ultimate powers of the society, but the people themselves." To meet changing conditions when indicated requires courageous action. "Inaction does not bring victory."[7] The place of

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[6] Population Bulletin, Population Reference Bureau, Inc., Vol. XV, No. 8, December 1959, Washington, D. C.

[7] History of the Liu Sung Dynasty (Sung S Chu) C. A. D. 513 (Adopted from Tsunoda and Goodrich, Japan in the Chinese Dynastic Histories, pp. 23-24).

Public Health is in the stream of life—not on its banks, to paraphrase Dr. René Sand. Dr. Richard Lee, Director of Health for Hawaii, observed in a recent address that in spite of the progress in health in the most developed countries, no country has provided the highest attainable level of health for its people. As the world grows smaller, the need becomes more imperative. Time is of the essence. Imaginative and carefully formulated plans must be advanced speedily and vigorously by all concerned for the benefit of all the people of all lands who may enjoy both World Health and World Peace in the coming years.

The basis of our hope is a solid foundation for the Temple of Health which is within us all. Inspiration comes from many sources, as illustrated by some hymns that voice the social aspiration of our day. They express the hope of a New World founded upon justice and expressive of international brotherhood.

These are days when the Hawaiian proverb, as translated, is timely:

"Waves of the sea are overcome by the bow of a canoe;
Waves of men are overcome by human courage."

My Credo

Strange is our situation here upon earth.
Each of us comes for a short visit, not
knowing why, yet sometimes seeming
to divine a purpose. From the standpoint
of daily life, however, there
is one thing we know:

That Man is here for the sake of
other Men . . . Above all, for those upon
whose smile and well-being our
own happiness depends, and also for the
countless unknown souls with whose fate
we are connected by a bond of sympathy.

Many times a day I realize how much
my own outer and inner life is built upon
the labors of my fellow men, both living
and dead, and how earnestly I must
exert myself in order to give in return
as much as I have received.

—A. Einstein

FROM THE GENERAL MANAGER'S OFFICE

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Director of Public Relations

Josephine P. Lindquist
Assistant to General Manager

SUMMARY OF ACTIONS HOUSE OF DELEGATES MEETING

April 26, 1960 — Hamden, Connecticut

Election of Officers

The following members of the Society were elected to state office for 1960-1961 or for terms as indicated otherwise:

President
John N. Gallivan
400 Main Street, East Hartford

President-Elect
Thomas M. Feeney
701 Asylum Avenue, Hartford

First Vice-President
Karl T. Phillips
36 Church Street, Putnam

Second Vice-President
Alfred Schiavetti
11 Church Street, Stafford Springs

Treasurer
Isadore S. Goldberg
24 Church Street, Torrington

Secretary
Orvan W. Hess
79 Trumbull Street, New Haven

Connecticut Medicine
Managing Editor
Denis S. O'Connor
241 Edwards Street, New Haven

Literary Editor
Louis H. Nahum
1142 Chapel Street, New Haven

**Two Delegates and Two Alternates to the A.M.A.*
July 1, 1961 to December 31, 1962

Max Caplan, Delegate
219 West Main Street, Meriden

John H. Grossman, Alternate
144 Golden Hill Street, Bridgeport

James R. Cullen, Delegate
350 Farmington Avenue, Hartford

Stewart P. Seigle, Alternate
85 Jefferson Street, Hartford

Speaker of House of Delegates
Michael R. Scully
1315 Noble Avenue, Bridgeport

Vice-Speaker
Frank K. Abbot
163 Grove Street, Waterbury

Councilor-At-Large
Ellwood C. Weise, Sr.
144 Golden Hill Street, Bridgeport

After the report of the election of officers had been received by the House, John N. Gallivan, East Hartford, submitted his resignation as AMA Delegate for the remainder of his present term, which expires on December 31, 1960.

Action of House of Delegates: Voted to accept Dr. Gallivan's resignation with regret.

Max Caplan, Meriden, was then nominated for appointment as AMA Delegate to complete Dr. Gallivan's unexpired term. There were no other nominations.

Action of House of Delegates: Voted to appoint Dr. Caplan to complete Dr. Gallivan's unexpired term as AMA Delegate, January 1, 1959—December 31, 1960.

Election of Committees

A complete list of members of the Society elected to serve on committees will be published in a later issue of Connecticut Medicine.

Resolution on C.M.S.

(introduced from the floor by Dr. Louis Backhus)

Whereas: Experience suggests that the interests of the people of Connecticut, the physicians, and Connecticut Medical Service, Inc. can best be served by maintaining the closest working relationships between the Council of the Society and the Directors of Connecticut Medical Service, Inc., and

Whereas: The interchange of views and opinions at a recent meeting of the Council, at which the Physician-Directors of Connecticut Medical Service, Inc. were invited guests, demonstrated the benefits to be gained from a continuation of such meetings, therefore

It Is Resolved: That this House of Delegates, under the provisions of Article XIV, Section 1, Paragraph 2 of the By-Laws, refer the following amendment of the By-Laws to the Council:

> "Article IX, Section 1, Paragraph 1 be amended by the addition of the following sentence: Any member of the Society who shall become a Director of Connecticut Medical Service, Inc. shall be a member Ex-Officio of the Council, without the privilege of voting, during his tenure as a Director of Connecticut Medical Service, Inc.," and

It Is Further Resolved: That after compliance with the provisions of Article XIV, Section 1, Paragraph 2 of the By-laws, the Council shall present this amendment for action by the House of Delegates at its next regular meeting.

Initial Action of House of Delegates: Voted to refer to reference committee.

Report of the Reference Committee

The Committee recommends that, in the interests of better communication these motions be favorably received by this House of Delegates.

Final Action of House of Delegates: Voted to accept the Report of the Reference Committee.

Resolution Based on A Resolution From the Fairfield County Medical Association Re: Fee Schedule Established by Section on Radiology

Whereas: The Section on Radiology of the Connecticut State Medical Society has, without the knowledge and consent of the Society, established a fee schedule for compensation cases, with the Chief Compensation Commissioner of the State of Connecticut, for identical radiographic procedures, as follows:

CLASS A—Board Radiologists to be compensated at 100 per cent of the fee schedule,

CLASS B—Members of other specialty boards to be compensated at 75 per cent of the fee schedule,

CLASS C—All other physicians, (General Practitioners), to be compensated at 50 per cent of this fee schedule, and

Whereas: This agreement was entered into with the Chief Compensation Commissioner without the acknowledgement and consent of the physicians of this state, or their duly elected representatives in the Council or House of Delegates, and

Whereas: This represents an intolerable commitment of the medical profession to a fee schedule proposed by a limited number of men,

Therefore Be It Resolved: That the House of Delegates of the Connecticut State Medical Society is opposed to the unilateral action of the Section on Radiology, and

Therefore Be It Further Resolved: That the Section on Radiology be advised to notify the Compensation Commissioners and physicians of the state that their original action of June 18, 1959, be immediately rescinded, and this notice be published in the Journal of the Connecticut State Medical Society, and

Therefore Be It Further Resolved: That the House of Delegates instruct the Secretary of the Connecticut Medical Society to advise the Chief Compensation Commissioner that this action of the Section on Radiology is contrary to the best interests of the Connecticut State Medical Society and has been imposed on the members of the Society without their knowledge or consent, and

Therefore Be It Further Resolved: That the House of Delegates of the Connecticut State Medical Society regularly assembled, hereby reject the actions of the Section on Radiology and respectfully request the Chief Compensation Commissioner to withdraw his approval of this fee schedule.

Final Action of House of Delegates: Voted to adopt this resolution.

Section on Neurosurgery

The House of Delegates approved the request for the formation of a Section on Neurosurgery of the Connecticut State Medical Society.

The actions taken on recommendations contained in the reports of officers and in committee reports appear as footnotes to the reports which appear in another section of this Journal under the heading "Annual Reports."

Meetings Held in June

8 Sub-committee on Toxemia
Committee on Accident Prevention

New Members

Fairfield County

Raymond T. Anderson, Stamford
Sara A. Bonnett, Ridgefield
William F. Eckhardt, New Canaan
Vera M. Finlay, Greenwich
Morley M. Goldberg, Danbury

Philip D. Henry, Shelton
Rolla B. Hill, Jr., Bridgeport
William F. Hughes, Westport
William M. Kane, Trumbull
Richard F. Kasper, Bridgeport
Stuart A. Kay, New Canaan
Robert F. Kiley, Danbury
Robert B. King, Stamford
Edward P. Kuczko, Danbury
John H. Moore, Bridgeport
K. G. S. Nair, Norwalk
William F. Neth, Trumbull
Robert C. Parahoo, Glenbrook
Peter P. Ruseski, Bridgeport
Cesar Oro-ni J. Sagnip, Danbury
Henry G. Schmidt, Bridgeport
Ezra S. Shaya, Westport
Cleo I. Siderides, Stamford
Robert G. Small, Bethel
Harald J. Van Eycken, Greenwich
Arthur Weitzner, Stratford
Naci M. Yildizalp, Stratford

Middlesex County

Henry A. Jolley, Middletown
Witold Kawecki, Middletown
Umberto Squattrito, Middletown

PLACEMENT WANTED

The Society's Placement Service is in receipt of the following:

Rafael Uribe, M.D., Age 34—M.D. University Santo Domingo Medical School 1949 — Specialty Orthopedic Surgeon.

Yin Chen Lee, M.D., Age 42—M.D. Hsiang Ya Medical College (Yale-in-China) 1942 — Assistant Pathologist in Long Island Jewish Hospital in N. Y. 1955-1957—Specialty Pathology.

Gordon Northrup, M.D., Age 37—M.D. University of Chicago Clinics 1953—Specialty Child Psychiatry—Would like administrative and clinical position to start in July 1960.

W. Marshall East, M.D., M.D. University of Virginia Medical School 1953—Interested in plastic and reconstructive surgery.

Paul T. C. Lin, M.D., Age 40—M.D. University Aurora-Shang-Hai, China 1945 Specialty Orthopedic surgery.

Bernard Deitch, M.D., Age 31—M.D. University Chicago Medical School 1955. Specialty Hematology with some Internal Medicine.

Joseph Rosenbaum, M.D., Age 31—M.D. New York College of Medicine, New York City 1953—Specialty Surgery.

Morrell M. Auram, M.D., Age 30—M.D. University of Geneva, Switzerland 1959—Interested in General Practice. Will consider association with established or retiring physician. Available July 1, 1960.

ANY MEMBER OF THE SOCIETY KNOWING OF OPPORTUNITIES FOR PLACEMENT OF THESE PHYSICIANS IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

PLACEMENT OPPORTUNITIES

MEDICAL DIRECTOR, CONNECTICUT STATE WELFARE DEPARTMENT: IMMEDIATE APPOINTMENT AT SALARY RANGING FROM $13,000 to $14,180 with a maximum of $15,480. Unusual opportunity to head medical department of a large welfare department. Essentially administrative and supervisory work, related medical care, and program planning. Helps to develop a close working relationship with state and county medical, dental and pharmaceutical associations and other related organizations. He also represents the Commissioner on medical matters on the local, state and national scene. The Welfare Department is looking for a top-flight qualified Medical Director, preferably with a public health background or comparable medical administration experience. Write or phone Charles Sheehan, Personnel Administrator, State Welfare Department, State Office Building, Hartford, Connecticut. Telephone JAckson 7-6341, Ext. 2757.

Letters To The Editor

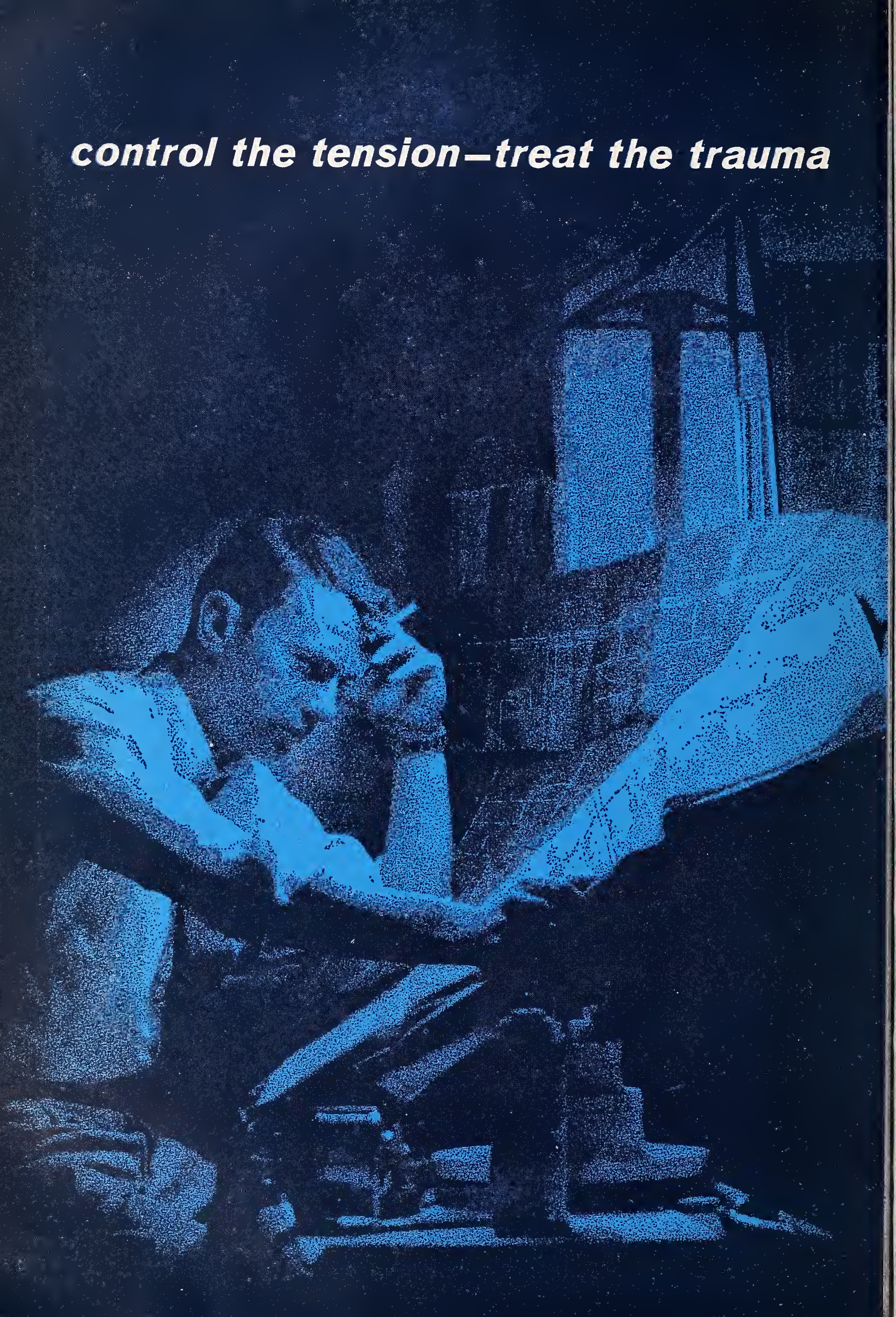
To the Editor:

In reference to your recent editorial "Do People Die of Senility" I would like to point that this diagnosis is often much more correct than a pseudoscientific diagnosis such as Arteriosclerotic Heart Disease. (This applies in cases of very old people who do not have a post-mortem.)

This has been a disturbing thing to me for several years as I have often been called upon to pronounce such cases in the State Hospital. I had been asked by the State of Connecticut statistical department not to use "Senility" as it was considered to be "not definite enough!" I feel that an indefinite term for an indefinite situation is much more honest than a mere label.

Yours truly,

Charles A. Robbins, m.d.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PATHILON (25 mg.)—anticholinergic noted for its peripheral, atropine-like action, with few side effects.

The clinical advantages of PATHIBAMATE have been confirmed by nearly two years' experience in the treatment of duodenal ulcer; gastric ulcer; intestinal colic; spastic and irritable colon; ileitis; esophageal spasm; anxiety neurosis with gastrointestinal symptoms and gastric hypermotility.

Two dosage strengths—PATHIBAMATE-400 and PATHIBAMATE-200 facilitate individualization of treatment in respect to both the degree of tension and associated G.I. sequelae, as well as the response of different patients to the component drugs.

Supplied: **PATHIBAMATE-400**—Each tablet (yellow, 1/2-scored) contains meprobamate, 400 mg.; PATHILON tridihexethyl chloride, 25 mg.
PATHIBAMATE-200—Each tablet (yellow, coated) contains meprobamate, 200 mg.; PATHILON tridihexethyl chloride, 25 mg.

Administration and Dosage: **PATHIBAMATE-400**—1 tablet three times a day at mealtime and 2 tablets at bedtime.
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Adjust to patient response.

Contraindications: glaucoma; pyloric obstruction, and obstruction of the urinary bladder neck.

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County Association Officers

The list of officers of the various county societies is published herewith. This list will not be published each month and members of the Society would do well to take notice of this publication.

Fairfield County

President—Morris P. Pitock, 881 Lafayette Street, Bridgeport
Vice-President—Cotton Rawls, 300 Main Street, Stamford
Secretary—Nathaniel Kenigsberg, 881 Lafayette Street, Bridgeport
Executive Secretary—Mr. Arnold P. Olson, 285 Golden Hill Street, Bridgeport
Treasurer—Thomas J. Tarasovic, 49 Dover Street, Bridgeport
Councilor—E. Tremain Bradley, 276 West Avenue, South Norwalk
Alt. Councilor—Vincent A. Gorman, 320 Hawley Avenue, Bridgeport

Hartford County

President—Stevens J. Martin, 114 Woodland Street, Hartford
Vice-President—Charles E. Jacobson, Jr., 172 East Center Street, Manchester
Secretary-Treasurer — Morris M. Mancoll, 242 Trumbull Street, Hartford
Executive Secretary—Mr. Joseph L. Gordon, 230 Scarborough Street, Hartford
Councilor—Philip M. Cornwell, 85 Jefferson Street, Hartford
Alt. Councilor—Henry M. Pollock, Jr., 259 High Street, Bristol

Litchfield County

President—J. Alfred Fabro, 94 Church Street, Torrington
Vice-President—Isadore S. Goldberg, 24 Church Street, Torrington
Secretary-Treasurer—Frank Lovallo, 382 Prospect Street, Torrington
Councilor—Benjamin Katzin, 241 Main Street, Torrington
Alt. Councilor—Frederick C. Gevalt, Sharon Hospital, Sharon

Middlesex County

President—W. Raymond James, 64-A North Main Street, Essex
Vice-President—A. Benjamin Rafkind, 212 Hunting Hill Avenue, Middletown
Secretary-Treasurer—Herbert Levine, 195 South Main Street, Middletown
Councilor—Willard E. Buckley, 195 South Main Street, Middletown
Alt. Councilor—Richard F. Grant, 482 Main Street, Cromwell

New Haven County

President—Henry Caplan, 219 West Main Street, Meriden
Vice-President—Anthony J. Mendillo, 45 Trumbull Street, New Haven
Secretary-Treasurer—Hyman A. Levin, 362 Whitney Avenue, New Haven.
Councilor—Samuel B. Rentsch, 61 Seymour Avenue, Derby
Alt. Councilor—Jachin B. Davis, 364 Oak Street, New Haven

New London County

President—Mario Albamonti, 6 Clinic Drive, Norwich
Vice-President—Willard J. Morse, 32 Channing Street, New London
Secretary-Treasurer—Clifford Wilson, 7 Clinic Drive, Norwich
Councilor—William J. Murray, Jr., 447 Montauk Avenue, New London
Alt. Councilor—Nicholas T. Phillips, 93 Sachem Street, Norwich

Tolland County

President—Marjorie A. Purnell, 23 Davis Avenue, Rockville
Vice-President—David S. Hastings, Spring Street, Stafford Springs
Secretary-Treasurer—R. Bruce Thayer, Jr., 20 School Street, Hazardville
Councilor—Alfred Schiavetti, 11 Church Street, Stafford Springs
Alt. Councilor—Oliver J. Purnell, 147 Union Street, Rockville

Windham County

President—William Maurer, 132 Mansfield Avenue, Willimantic
Vice-President — Walter Rowson, Jr., Box 548, North Grosvenordale
Secretary-Treasurer—Sherman L. Waldron, RFD No. 1, North Grosvenordale
Councilor—Ralph L. Gilman, Dog Lane, Storrs
Alt. Councilor—Gerard M. Chartier, 39 Broad Street, Danielson

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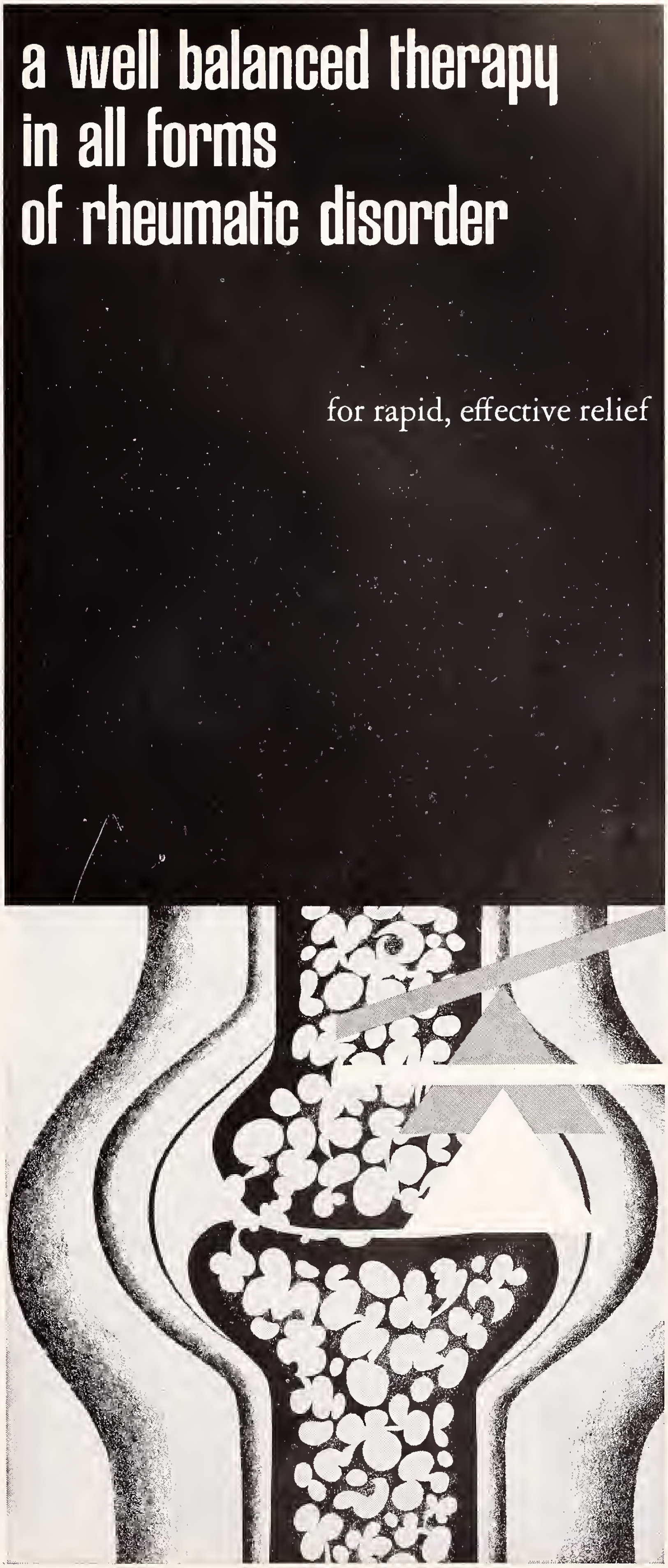

The combined action of phenylbutazone and prednisone in Sterazolidin results in striking therapeutic benefit with only moderate dosage of both active agents.

In long-term therapy of the major forms of arthritis, control is generally maintained indefinitely with stable uniform dosage safely below that likely to produce significant hypercortisonism.

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Sterazolidin®, brand of prednisone-phenylbutazone: Each capsule contains prednisone, 1.25 mg.; Butazolidin® (brand of phenylbutazone), 50 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg. Bottles of 100.

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WOMAN'S AUXILIARY

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Mrs. Morton Arnold, Windham Center

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Mrs. George Rosenbaum, West Hartford

First Vice-President
Mrs. Ellwood C. Weise, Trumbull

Second Vice-President
Mrs. Paul W. Vestal, Woodbridge

Recording Secretary
Mrs. Harry Knight, Middletown

Corresponding Secretary
Mrs. James F. Jones, Danielson

Treasurer
Mrs. Fritz Meyer, Bridgeport

REPORT OF THE PRESIDENT OF THE WOMAN'S AUXILIARY TO THE HOUSE OF DELEGATES OF THE CONNECTICUT STATE MEDICAL SOCIETY

It is an honor and a privilege as President of the Woman's Auxiliary to the Connecticut State Medical Society to present to you the report of our activities for 1959-1960, our sixteenth year. The National slogan for this year was "Individual Responsibility for better Community Health." We have endeavored to carry out this theme in our most important projects for the year.

Last year the Connecticut State Medical Society, through its sub-committees and the help of the Auxiliary planned a Para Medical Careers program. The seven counties immediately contacted representatives and the work has been done with a great deal of enthusiasm throughout the counties. Mrs. Allen, chairman for the State Auxiliary and a very excellent leader has done a superb job. I would like to quote from her annual report the following: Throughout Connecticut, 175 schools have been contacted between April 1, 1959-1960. In 90 of these schools, the film "Helping Hands for Julie" has been shown. In 75 of these schools, M.D.'s, nurses, medical technologists, etc. addressed the students. At least 20 guidance programs in nearby hospitals have been arranged with 1,500 pupils and 115 guidance personnel in attendance. We now have over 350 Health Career cards registered with the Conn. State Medical Society. This information has been processed and the various participating agencies will mail authoritative information material to each individual student.

The Auxiliary has raised $2,200 for nursing scholarships and $3,200 has been raised as scholarship help for medical students. Fairfield County has established $600 in scholarship help for paramedical career students and New Haven County has established two scholarships of $250 each for the same purpose. This is in addition to the A.M.E.F. Mrs. Allen was appointed Eastern Regional Chairman—Paramedical Careers of the Woman's Auxiliary to the A.M.A. She has also been elected delegate to the Woman's Auxiliary Convention A.M.A. in Miami Beach in June to make the progress report.

Our Legislative chairman and Co-chairman have had a busy year because of the very important Forand Bill. They have sent material to the county chairman and contacted members to remind them to write to our Senators and Congressmen, also to the House Ways and Means Committee. The counties have had legislative meetings and have cooperated fully in this important and crucial year.

The American Medical Education Foundation chairman has had a very successful year. The amount collected this year was $2,432.47 which is an average of $2.00 per person. I was very happy and pleased that my own county gave their contribution in honor of their State President.

Beside these two large projects our members volunteered their time to the State Hospitals, helping with teas, and parties for the patients, also with the collection of gifts for Christmas. All this work by the members in their own community is indeed our idea of real public relations.

Our own publication is the Connecticut "Quarterly" which as the name indicates is sent to the membership four times a year. We are able to send this without charge because of the yearly contribution of $400.00 for the use of the last page by the Connecticut Medical Service. Inc. We also have a page in the CONNECTICUT MEDICINE Journal. Our membership is kept informed in an extremely interesting way due to our excellent Editor, Mrs. Paul Tisher, a Past President.

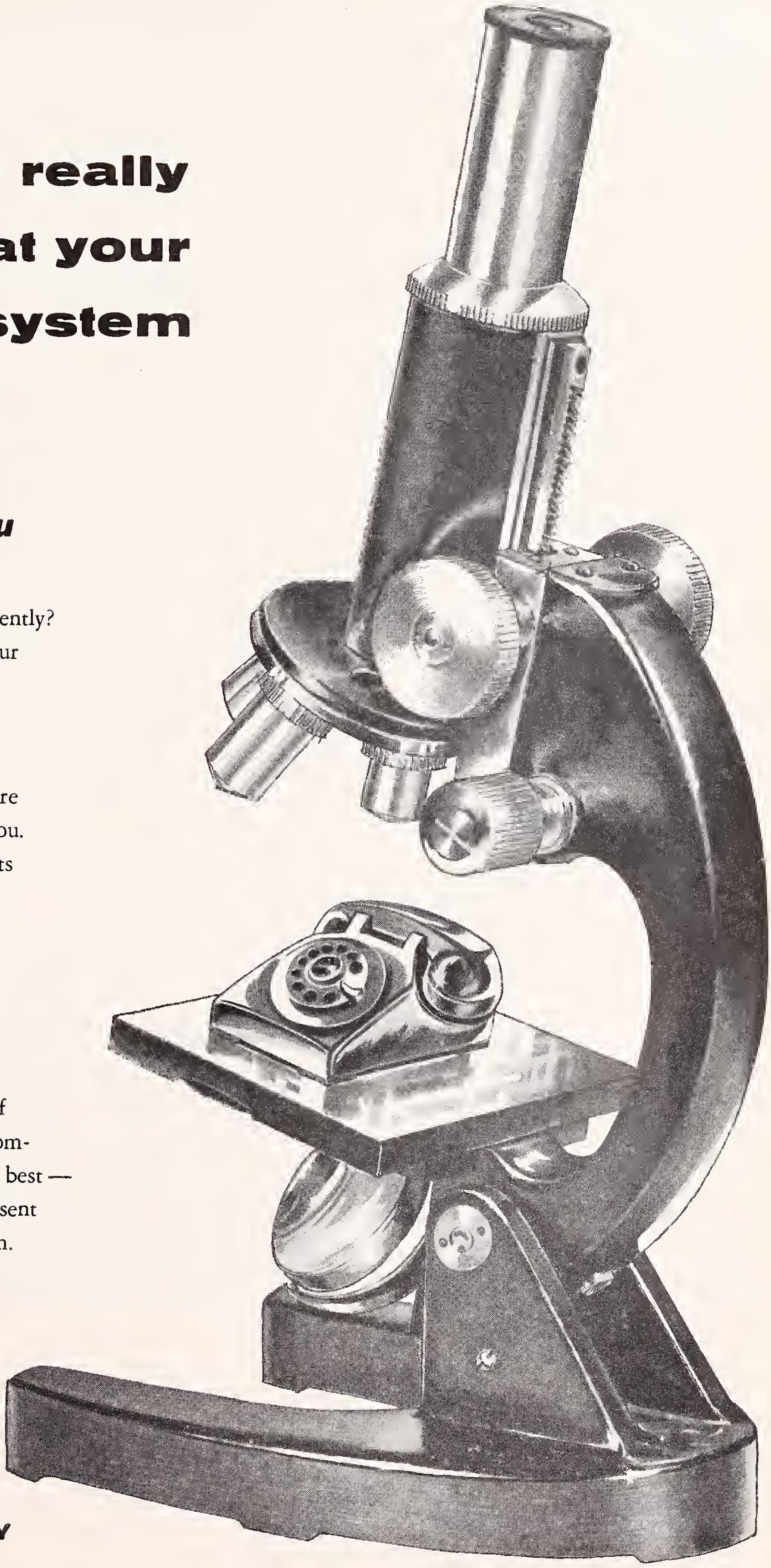
Both Civil Defense and Safety has been an important program this year and they are both well organized. We were asked to participate in a State Civil Defense program which emphasizes the need for making every home prepared in case of disaster; natural or man made.

We are again assisting Dr. John Freheit, Chairman of the Physicians Art Association. A chairman for each county along with the State chairman are planning an Art Exhibit this year at the Hamden High School.

Our Community and Rural Health chairman reports that the Auxiliary was responsible for the health education exhibit at eleven fairs throughout the State. We also were represented at the Conn. Health League Conference on Rural Health which was held at the University of Connecticut.

Our books have been audited and the treasurer has reported at each meeting. She has worked in close cooperation with the Finance chairman.

This year we had our Organizational meeting in May at the same time as our first Board Meeting. Our Semi-Annual meeting was held at Gallo's Terrace in Newington. We had as our speakers Dr. Girija of India who is in this country on the Rotary Fellowship, studying Pediatrics. Her record of achievement in medicine is outstanding, both in India, and in the United States. Dr. Weise, State President of the Medical Society also spoke and gave us a resume of the Forand



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Bill. Our other guests were the Executive Secretary Dr. William R. Richards and from the Advisory Council, Dr. Paul Tisher. Our annual meeting will be held tomorrow at the New Haven Country Club with an excellent program planned for the day. Our speaker will be Dr. Wilfred Bloomberg, Commissioner of Mental Health for the State of Conn. His subject will be "The Place of the Community in Mental Health."

Throughout the year we have had the full cooperation of our Medical Advisors from the State Society, Drs. Winfield Kelley, Paul Tisher and Oliver Stringfield and we sincerely wish to thank them. The Auxiliary is a member of the World Health Association, the Connecticut Health League and the Connecticut Advisory School Health Council.

I wish to thank my very active and intelligent board including the seven county presidents, for successfully carrying out our slogan this year. I would like to take this opportunity of thanking all of them as well as the entire active membership for having given me the privilege and honor of serving as president in this extremely active and worthwhile organization; whose aim is as its name implies, an Auxiliary to the Connecticut State Medical Society.

Mrs. Walter Nelson

Organizational Meeting for 1960-1961

The organizational meeting of the Woman's Auxiliary will be held on Monday, June 6, 1960 at the Connecticut Light and Power Co. in Berlin. County officers and committee chairmen are requested to attend, or in the event of their inability to attend, a substitute should be present. This meeting is called for 11 A.M. Luncheon will be available in the cafeteria. State Board members should report at 10:30 A.M. for a short meeting which will precede this larger group meeting. Plans for the auxiliary's work for the year will be outlined and new chairmen and officers will find the round table discussions particularly beneficial. All members will have an opportunity to exchange ideas and plans. This is the one meeting of the year planned to correlate our work so SAVE THE DATE—JUNE 6.

Nominating Committee for 1960-1961

The following members of the Auxiliary were elected to serve as the nominating committee for 1960-1961 at the annual meeting of the Auxiliary held April 27, 1960 at the New Haven Country Club:

Mrs. Walter Nelson, Cromwell; Mrs. Willard Buckley, Middletown; Mrs. Dewey Katz, Hartford; Mrs. William MacShepard, Putnam; Mrs. Daniel Sampson, Thomaston; Mrs. Louis Saxe, Niantic; Mrs. Paul W. Tisher, New Britain.

Immediately following the annual meeting, the secretary of the Auxiliary called this committee together for the purpose of electing a chairman, who is Mrs. Nelson.

THIRTY-SEVENTH ANNUAL
CONVENTION
WOMAN'S AUXILIARY TO THE
AMERICAN MEDICAL ASSOCIATION, INC.
MIAMI BEACH, FLORIDA — JUNE 13-16, 1960
Headquarters: Hotel Deauville

Art Exhibit Prize Winners

Professional Group:

Best in Show: Dr. W. W. Wright, "Adagio," Hartford.

1. Bernice Brand, "Lotus," New Haven.
2. Margot Rosenthal, "Riviera Port," West Hartford.
3. Ruth Waskowitz, "Chi-Chi," New Britain.
3. Sophie P. Cohen, "Flowers," New Haven.

Advanced Group:

1. Stephen Rosenthal, "Crashing Sea," West Hartford.
2. Lorraine Opinsky, "Rome," Bloomfield.
3. John M. Freiheit, "Farmhouse," Waterbury.
3. Sophie P. Cohen, "Sleeping Girl," New Haven.

Beginners Group:

1. Dr. Daniel Samson, "13th Hole," Thomaston.
2. Ann Plant, (daughter of Dr. MacCready), "Louise," Branford.
3. Laura Gosselin, "Artist Props," Norwich.

Watercolor:

1. Mrs. Saul Meltzer, "The City," Bridgeport.
2. Victoria Coleman, "Henry," New Haven.
3. Dr. Margaret MacLean, "Cypress Swamp," Farmington.

Pastel:

1. Diane Marinaro, "Alba," Newington.
2. Dorothy Tutles, "Flowers," West Hartford.

Ink:

1. Dr. Herbert Thoms, "Landscape," New Haven.

Children:

1. Candy Wheeler, "Horses," Northfield.
2. Carolyn Bolt, "Sabine," Willimantic.
3. Lawrence Harris, "Still Life," Thomaston.

Photography:

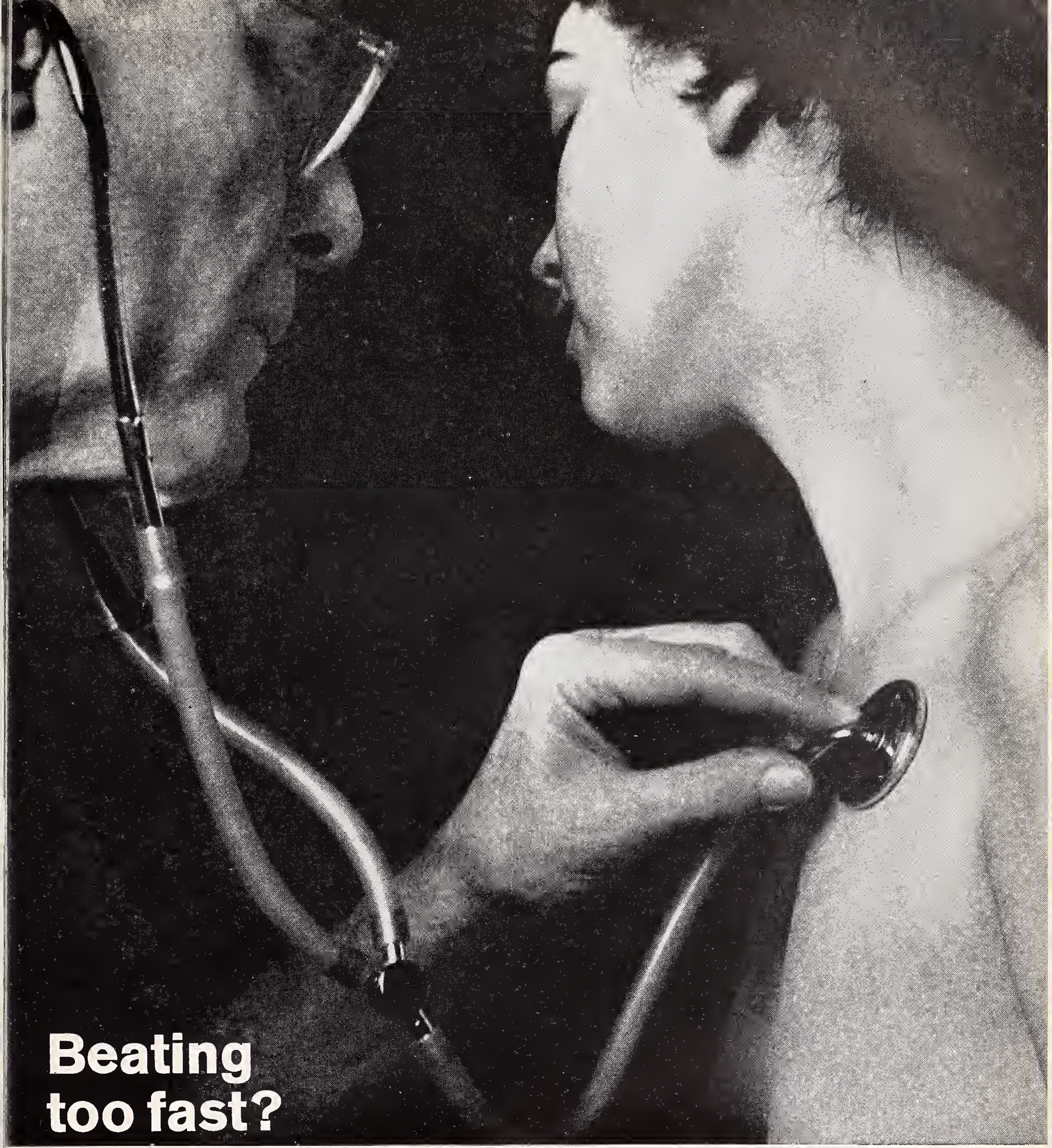
1. Stephen Rosenthal, "Textures," West Hartford.
2. Karin Rosenthal, "Dolomites," West Hartford.
3. John P. Riesman, M.D., "Dawn," New Haven.

Sculpture:

1. Dr. K. Kenigsberg, "Arabesque," Boston.
2. Mrs. Samuel Rentch, "Drop Life," Derby.
3. Dr. Elsie Tytla, "Eagle," New London.

Ceramics:

Dr. Gerald Greene, West Hartford.



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Serpasil has proved effective as a heart-slowing agent in the following conditions: mitral disease; myocardial infarction; cardiac arrhythmias; neurocirculatory asthenia; thyroid toxicosis; excitement and effort syndromes; cardiac neurosis; congestive failure. Serpasil should be used with caution in patients receiving digitalis and quinidine. It is not indicated in cases of aortic insufficiency.

SUPPLIED: Tablets, 0.1 mg., 0.25 mg. (scored) and 1 mg. (scored). Complete information available on request.

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Around The State

Middlesex County

Clarence Harwood and Andrew Turano attended the annual meeting of the American Academy of Pediatrics in Atlantic City the middle of April.

The annual meeting of the Middlesex County Medical Association was held at the Commodore Macdonough Inn, in Middletown on April 14th. Officers elected for the coming year are: W. Raymond James, president; A. Benjamin Rafkind, vice president; and Herbert Levine, clerk.

Charles Russman has been appointed a director of Long Lane School.

James Glessner has moved to California where he will be a full time member of the teaching staff at the medical school of the University of California, Los Angeles.

New Haven County

Joseph Weiner talked to the medical staff of the Meriden Hospital at their regular staff meeting.

Donald P. Shedd has been elected a member of the Society of University Surgeons.

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BAMADEX
meprobamate 400 mg., with d-amphetamine sulfate 5 mg., Tablets

meprobamate **plus** d-amphetamine... depresses appetite...elevates mood... eases tensions of dieting...**without** overstimulation, insomnia or barbiturate hangover.

Dosage: One tablet one-half to one hour before each meal.

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Special Notices

A.M.A. Industrial Health Congress To Be Held In North Carolina

Representatives of industry, agriculture, medicine, and governmental agencies will gather in Charlotte, N. C., October 10-12, for the 20th Congress on Industrial Health.

To be held at the Hotel Charlotte, the congress is sponsored by the American Medical Association's Council on Occupational Health and is held each year as a means of furthering the development and maintenance of high medical standards in industry and on the farm.

Established in 1938, the council supports safe and healthful working conditions for employees through medical supervision of workers, control of environment, health education, and counseling, according to Dr. B. Dixon Holland, council secretary.

The congress programs are primarily directed toward the general practitioner, whom, it is estimated, handles close to 90 per cent of all the occupational medical practice in the nation.

Handy Cards Tell What To Do In Case of Poisoning

Handy reference cards telling what to do in case of accidental poisoning and how to prevent such emergencies have been made available by the American Medical Association.

The cards reflect a growing awareness of the magnitude of the problem, according to Bernard E. Conley, Ph.D., secretary of the A.M.A. Committee on Toxicology.

Statistics show that 1,422 persons, 355 of them pre-school children, were killed in one year by packaged chemicals, such as detergents, cleansers, and other household cleaning agents, while thousands were injured.

"The first aid for poisoning chart serves as both a reminder of the dangers of accessible poisons to small children and as a help in meeting poisoning emergencies," Dr. Conley said. "Its life-saving potential may be equated with its value in educating the public on what to do when poisoning occurs."

As another means of preventing poisonings, the A.M.A. is supporting a bill, now before Congress, that would require household, commercial, and industrial products to carry labels listing their contents.

The cards, suitable for attaching to medicine cabinets, may be obtained free of charge from the Committee on Toxicology, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.

The miracle behind miracles is that in nature there is no surrender.

PURPOSE...

In the path of any purposeful effort, there are obstacles that must be expected and overcome. For example, Blue Shield and the doctors who support it have not been without their share of problems in planning a program for care of the aged. Yet there has been no thought of giving up, for much has already been accomplished. As one doctor sums it up: "Blue Shield Plans already cover people over 65 in the same proportion as they exist in the population at large–and membership is growing at a faster rate in this age group!"

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Connecticut Medical Service, Inc.

The Blue Shield Plan for Connecticut

Book Reviews

MEDIEVAL AND RENAISSANCE MEDICINE by Benjamin L. Gordon. Published—Philosophical Library, Inc., New York 16, N. Y., 1,500 pp. $10.00.

Reviewed by Denis S. O'Connor

Depth of knowledge concerning one's field of endeavor usually characterized the master from the technician and this is true in medicine as in every other field.

In a field such as medicine the history of which coincides with the history of mankind, it would be difficult to be wholly familiar with that complete history but to have some knowledge of medical history should be the desire of every practitioner of medicine. The recent announcement of the new department of the History of Medicine and Science at Yale University gives particular pleasure to those who realize the liberalizing effect that this new department may have on our future doctors.

In Medieval and Renaissance Medicine we are treated to the influence of race geography, religion on medicine and we also get a brief history of some of the special fields of medicine with biographical sketches of the men of those eras who contributed to the development of medical knowledge.

This is not a volume to be read and discarded but one for the bedside table for enjoyable and relaxing reading for the doctor who desires to rid himself of the many irritating occurrences of his day in preparation for a restful sleep. And, it will later find a place in his permanent library for his enjoyment in the perusal of history.

It is to be regretted that the author of an otherwise fine work has shown an obvious bias toward a religious group having an influence on medical development in this era. This attitude can only be explained on the author's failure to understand the basic philosophy of that religion.

NUTRITION AND ATHEROSCLEROSIS by Katz, Stamler & Pick. Lea & Febiger, Philadelphia, Pa., 1958, $5.00.

Reviewed by Louis H. Nahum

This book is based on the 1956 Henry Jackson Lecture of the New England Cardiovascular society given by Dr. Katz on May 14, 1956. However, the material of this lecture was expanded into a comprehensive review and appraisal of the rapidly developing field of atherosclerosis research. It therefore contains all the newer data which the authors have produced since 1956. However, since previous reviews covered earlier literature, the bibliography is in the main made up of references since 1953.

There is a widespread impression, and this has been so for generations, that gluttons have a high morbidity and mortality from vascular disease. Spare and frugal eaters have greater longevity and freedom from vascular disease and vascular accidents than do well nourished and overweight individuals. Such impressions have received abundant confirmation from autopsy reports and from the epidemiological studies during World War II. In Oslo there was a sharp decline in mortality as food restriction began but this was short-lived after food restrictions were lifted. Much clinical observations have appeared such as the popularized studies of Morrison which points strongly to the importance of fat restriction on morbidity in patients that have recovered from myocardial infarction. It is clear that it was time for an authoritative book on nutrition and atherosclerosis and this is it. It covers our present knowledge on the relation between nutrition and atherosclerosis. The data is marshalled from clinical observation, epidemiologic studies of many population groups from all over the world and from the field of experimentation. It is remarkable that the experimental data is so closely in accord with the clinical and epidemiologic conclusions.

From clinical sources it has been known that patients with diabetes mellitus, hypothyroidism, the nephrotic syndrome, essential familial hypercholesterolemia have a high incidence of hypercholesterolemia and also of severe atherosclerotic vascular disease.

From epidemiologic studies the conclusion is difficult to avoid that there is a positive correlation between serum cholesterol levels and the development of coronary atherosclerosis.

Animal experiments have shown that hypercholesterolemia and atherosclerosis can be produced by feeding animals a diet high in cholesterol and high in fat. But for a diet to be atherogenic there must also exist nutritional and endocrine disturbances. Estrogens prevent atherogenesis, whereas cockerells develop damaged arteries from diet alone. An interesting observation reported by the authors is that a high protein ration will decrease and a low protein diet will increase atherogenic action. Whether this holds also for man is not yet known. These experimental findings have led to attempts at hormonal therapy in humans with atherosclerosis. Especially the use of thyroid in hypothyroidism and the use of estrogens in females after the menopause as well as some males with myocardial infarction.

Why does the cholesterol level rise and why does this rise occur in western civilization? What is the true normal cholesterol level for optimal health and optimal freedom from vascular disease? Many answers are not yet at hand. Nevertheless the author has shown that at least in animals atherosclerosis is a reversible process.

After reading this book one becomes optimistic that sooner or later a method will be found to prevent atherosclerosis in man and to reverse the process once it has begun. Enough is now known about nutrition and atherosclerosis that one is not justified in waiting any longer for "scientifically clear proof" before undertaking prophylaxis as well as therapy of potential and present victims of atherosclerosis. For this reason the author has denoted the last chapter clearly outlining definitive approaches to prophylaxis and therapy of atherosclerotic disease. The advice is sound and worthy of trial in every potential or actual victim of atherosclerosis.

For those who wish documentation of the authors' thesis there are 67 tables replete with convincing evidence. For those who wish to review the literature there is a fine bibliography of 787 articles. No one who is dealing with atherosclerosis, (and which of us isn't dealing with it either in himself or his patients) can afford to pass this book by. It is a must for every physician.

I PRESCRIBE LAUGHTER by Thomas R. Rees, M.D., Vantage Press, Inc., New York, N. Y. 111 pp. $2.75.

Reviewed by Denis S. O'Connor

This little book, divided into twenty chapters with headings indicative of specialties or of phases of general medicine, is essentially a compilation of medical "jokes" such as are found in many medical, or trade, publications.

There is no claim for originality for the stories and the principle value of ownership of the volume is the availability of a fund of stories from which one, or more, could be selected by a speaker to set the mood for his talk or to illustrate a point.

I prescribe the book—laughter will follow, even for a person with little sense of humor.

Connecticut Accident Prevention Study

A pioneering project in preventing traffic accidents was launched by Governor Ribicoff at the West Hartford Armory, 836 Farmington Avenue, West Hartford, Connecticut, in March.

The Accident Prevention Study is a joint undertaking of the Connecticut State Departments of Health and Motor Vehicles and the U.S. Public Health Service, and has received the endorsement of the Connecticut State Medical Society. The purpose of the survey, which is the first of its kind, is *to determine whether there is any relationship between physical and psychological conditions of drivers and traffic accidents in which the study group has been involved.*

To make this determination, selected drivers will be evaluated for evidences of physical or psychological conditions which might be contributing factors to their poor records. Between 15,000 and 25,000 participants will be screened during a period of 18 months to two years. This will include drivers involved in personal injury accidents, chronic violators, and some whose licenses have been suspended or revoked.

Another group of drivers with good records will be invited to take the same tests for purposes of comparison. Findings may also be of help in determining what type of legislation may or may not be needed as to physical examinations of drivers.

For the study, a specially-equipped mobile unit will be used. In it, determinations can be made concerning vision, hearing, height and weight, tonometry for the detection of glaucoma, hemoglobin and other blood measurements, diabetes, and heart and chest conditions. Medical information will be kept confidential, with referral of positive findings to the individual's private physician for evaluation. The data will be used only for the research objectives of the study.

What Becomes of Medical Students

Of course in watching and reflecting on the careers of my pupils, I have come to some strong beliefs on subjects of medical education; but this is not the place for publishing them. Only one I will set down, which may be of use to future pupils, and is justified by some hundreds of personal recollections. In remembering those with whom I was year after year associated, and whom it was my duty to study, nothing appears more certain than that the personal character, the very nature, the will, of each student had far greater force in determining his career than any helps or hinderances whatever. All my recollections would lead me to tell that every student may draw from his daily life a very likely forecast of his life in practice, for it will depend on himself a hundredfold more than on circumstances. The time and the place, the work to be done, and its responsibilities, will change, but the man will be the same, except in so far as he may change himself.

James Paget, F.R.S. Article XIX, St. Bartholomew's Review, 1869.

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In Memoriam

Gray, Albert S.—West Hartford; New York University College of Medicine; served as deputy health commissioner of Connecticut for 25 years, 1928-1953, and for the past three years was health director for West Hartford; headed the Industrial Hygiene Department of the Connecticut State Department of Health, first of its kind in the nation, for 22 years; Dr. Gray was credited for establishing a pattern for industrial health programs that has since been followed by 40 states and many large cities; his work in the prevention of occupational illnesses was recognized by a citation from the Connecticut Safety Society in 1948; in 1951 he was appointed chief medical officer for the state civil defense program; served for number of years as a member of the faculty at Yale University; after receiving his medical degree, he entered private practice for several years and then joined the U.S. Public Health after a number of years with that service, and a few years later came to Connecticut; died April 21 at St. Francis Hospital at the age of 79 years.

Mainer, Raymond G.—New Britain; University of Vermont College of Medicine 1939; senior attending surgeon at New Britain General Hospital, where he had been a staff member since 1948; was recently appointed a director of the Hartford County Medical Association; after interning at the New Britain Hospital, he served as surgical resident at the New York Postgraduate Hospital, Columbia University, for two years, when he became a senior resident; he was assistant medical director for the Stanley Works, New Britain; active in community affairs, he served as president of the Kiwanis Club and the local Parent-Teacher Association and was a member of the executive board of the Keemosahbee Council of Boy Scouts; died at New Britain General Hospital April 14, after a short illness, aged 46.

Szur, Ralph J.—Bridgeport; University of Budapest, Hungary, 1943; practiced general medicine in Bridgeport since 1948; a native of Bridgeport, Dr. Szur attended the Junior College of Connecticut and Tufts University; he was employed as an insurance agent for four years and then enrolled in Peter Pazmony University, Budapest, Hungary, in 1938; graduated in 1943, he served an internship in Hungary and in 1946 returned to Bridgeport with his wife, the former Edith Gallwitz of Budapest; he served an internship at St. Vincent's Hospital, Bridgeport; died suddenly at his home April 17 of a heart ailment, aged 49.

Obituary

Nathan Vershbow, M.D.

1887 - 1960

Dr. Nathan Vershbow was born in Russia on May 24, 1887. He received his early education in Europe and then came to the United States to enter Tufts Medical School. His M.D. degree was given *cum laude* by Tufts in 1919. Following this he interned at the Grace Hospital in New Haven with a second year of training divided between Lowell, Massachusetts and the Bridgeport Hospital. In 1921 he married the former Mary Zinman and came to Hartford to enter into general practice. He was a member of the American Medical Association, the Connecticut State Medical Society, the Hartford County Medical Society, the Hartford Medical Society, and the Massachusetts Medical Society.

In addition to his wife, he is survived by his two daughters, four grandchildren, his brother and two sisters.

Dr. Vershbow developed a keen understanding of his patients' problems with consideration for more than just their physical disorders. He carried on an active practice until his retirement in 1950. Although general practice occupied the major portion of his time, over the years he developed a considerable interest in literature and art. His large library contained the finest of books, including many collectors' items. This interest in the arts proved a real boon to his retirement years.

It is difficult to write a man's personality into his final tribute. I think that his philosophy is best embodied in a statement that he made to me shortly before his death. Fully aware of the implications of his illness and with honest feeling, he said, "When the Great Conductor calls my stop, I shall turn and thank Him for the ride."

Charles E. McLean, M.D.

Magazine Solicitation

As a result of unsatisfactory experiences by doctors dealing with magazine representatives, it is suggested that doctors contact their Better Business Bureau prior to signing any long term contract with a representative whom they do not know personally.

Annual Reports

OF THE CONNECTICUT STATE MEDICAL SOCIETY

1959 - 1960

REPORT OF THE PRESIDENT

Mr. Speaker, Other Officers, Members of the House, Ladies and Gentlemen:

Burroughs once said that time does not become sacred to us until we have lived it. The several officers of your Society, together with the active committees and their chairmen have lived the past year in vigorous action and have come to recognize the *value* and *limitations* of time, if not its sacred qualities. In large degree our time has been taken up with the many problems, reactions and innovations created by the socio-economic turmoil which is overtaking society in this election year, but which, nevertheless, has been on the visible horizon for some time past.

Briefly cataloguing a few of our activities, it might be of interest to know that the finishing touches of the professional now are being applied with great care to our Opinion Survey and that this document will soon be ready for distribution to our members. Much time-consuming effort has also gone into the Relative Value Study as it begins to take final form, yet it often becomes disheartening to those who labor diligently, to note that certain groups have not yet contributed their share.

There has been a continual round of legislative meetings during 1959 on the local, state and national level which has necessitated much travel on the part of those playing an active role in these matters. Conferences on the aged and aging have taken place on similar levels and participation in these deliberations led invariably to panel discussions of Forand-type legislation.

A moment ago, I referred to the socio-economic turmoil which has been and is overtaking society. The various innovations resulting therefrom bring about new pressures which impinge upon the physician by creating the problem of: (1) how he shall be paid for his services; and (2) how he shall supply his services to his patients. The inevitable third party enters the scene here.

The doctor of medicine now becomes the victim of a squeeze-play in many phases of his practice—particularly in the non-surgical fields and even in the lesser surgical subspecialties—between his own Blue Shield plan on the one hand and the threat of some form of government controlled medical care on the other. Comment on both these problems will be presented in other reports, but a brief personal viewpoint might be in order at this time.

On the "President's Page" of the April 1960 issue of Connecticut Medicine, after detailing the actions recommended in the resolutions adopted by this House on January 27, 1960, I made the statement that these recommendations were in general agreement with what most people would consider a step in the right direction, designed, as they were, to benefit the public and to perpetuate amicable relations between Connecticut Medical Service, Inc., and the Society.

Although there are presently somewhat ominous reports to the contrary, we continue to hope that a plan, based on considered progress and with recognition of the House of Delegate's recommendations, will be developed by CMS. It is time for further serious reflection on all these pressing problems.

The remarks of Dr. Louis H. Bauer are often heard in proceedings of the World Medical Association of which he is secretary-general and even in the United Nations' chambers. Those of us who have been privileged to hear this soft spoken gentleman, either in AMA gatherings or at meetings of the Medical Society of the State of New York, have come to regard his words of wisdom as of great significance. You will have an opportunity to hear Dr. Bauer on a related Blue Shield subject, tomorrow at 12:00 noon. It will be worth your every effort to hear him.

In attempting to reach the grass roots of our profession, Dr. Bauer has been interviewed and the substance of his remarks has been recently published in "Medical Economics" under the title of "The Wagner-Murray-Dingell Bill is Becoming Law!" The essence of his commentary is a warning that "unless the nation's doctors act vigorously in this election year, the original New Deal blue print for socialized medicine, which is being adopted 'piece by piece,' will be completed soon."

He lists each of the five main points of the original blue print with examples which show how far we have gone down the path toward compulsory national health insurance and he predicts "I am certain that if the Forand bill is adopted by Congress, we'll have compulsory national health insurance within five years"; and further, "Legislation of the Forand type is never repealed. Once adopted, it's always extended, always amplified."

By the very nature of Forand proposals, any who oppose these plans to care medically for our elders, are castigated as being callous, moneygrabbing and unsympathetic. It is most difficult to bring reason to the public ear amid the clamor being created by certain politicians and their welfare-minded sponsors; nevertheless, in this area of thought, there is sound reason to question the concept of Federal responsibility on the basis of morality and justice. In regard to the morality of this concept, I would like to quote the following paragraph from an editorial in the Wall Street Journal. "Who, one may fairly ask, in the context of a society taught to honor one's mother and father, has *first* responsibility for the aged if not the sons and daughters? Who *next,* if not the community—or neighbors, the village, the town, the city, the state? *These* are the people and the institutions that have the first moral responsibility."

In regard to the justice of *Federal* responsibility, it might be well for the Senators on the Senate Sub-committee on Problems of the Aged and Aging to keep in mind that, while their hearts bleed so freely for the aged, they are also expected to be somewhat concerned with the problems of the aging, whether we are 65 or 16.

It is the *aging*, rather than the aged, who will carry the burden of the tax load for so-called "free" medical care. Dr. Dickinson, the AMA's chief of medical economics research, points out, "A man of 50 will pay into Social Security for only 15 years, (but) his son for 40 (years)"; the youngster who starts to work at age 20 will pay for 45 years.

The elderly who have been persuaded to join in the clamor of certain groups for Federal aid in this aspect of medical care, may do well to ask themselves whether their demands are as unselfish as they will be burdensome on those who follow them, their children and their children's children.

Returning to the same editorial which I mentioned a moment ago, a word of caution is uttered, even to the level of the wardheeling politicians: once the *aging voter*—not the aged—"realizes upon whose backs the full burden of this vote-getting scheme will be placed," the "votes may fall into a different pattern than they think . . . . . (for) there are vastly more *aging* voters than aged."

A year ago, upon assuming the office of President of our Society, I did so in deep humility, with sincere thanks and appreciation to my many colleagues *throughout the state* for the honor they had bestowed upon me.

You will note that I said "throughout the state" with emphasis, since this is precisely the concept in which I have tried to serve—with no geographic lines and with no county or city being foremost in influencing my attempts to represent and serve *all* the physicians of the state. I undertook this task with no reservations and I hope I have completed it under the same terms.

The duties of my office, though not hamstrung with administrative problems, have been rich in the experiences of acting as spokesman, advisor, and representative. Even these latter areas of activity were made considerably lighter by the help I received from many sources—from Tom Feeney, chairman of the Council; Bill Richards, our general-manager; John Gallivan, our president-elect; other dedicated members of the Council and certain of the Society's representatives in the Connecticut Medical Service organization.

These experiences have been most instructive and most rewarding. I have enjoyed them all except in a single area—a small one, I hope—but one which has, nevertheless, been disturbing to the unity of our membership. To those who understand the meaning of my words, no further explanation is necessary; to others, no explanation would suffice. But, without unity, our overall effectiveness can be hampered, particularly in dealing with those problems which affect our Society most adversely. All the clichés about unity will be of no avail, however, until, as my successor would say, a further searching of the minds has been accomplished. And in speaking of my successor, might I sincerely hope his term in office will be filled with every possible success.

In conclusion, I offer my sincere appreciation and personal thanks to all the members of our Society who have contributed their fair share and more, toward creating harmony within our ranks and building a stronger fortress against the pressures being applied to our profession from many sides.

And to those few who have chosen to take a contrary course, may I offer in all humbleness of spirit for their consideration, a thought which was in the minds of men even many centuries ago that:

"Whatsoever a man soweth, *that* shall he also reap."

Thank you

Ellwood C. Weise, Sr.

REPORT OF CHAIRMAN OF THE COUNCIL

Once again, it is my privilege and pleasure to report on the activities of the Council of the State Medical Society since the meeting of the House of Delegates on January 27, 1960.

The five resolutions adopted by the Special Meeting of the House were forwarded immediately to the Board of Directors of Connecticut Medical Service, Inc., and the original mediators from Blue Shield Medical Care Plan. I am sorry to report each of these groups were disappointed with the resolutions, especially Resolution No. 5, which was interpreted as being in conflict with the freedom of action necessary to physician members of the Connecticut Medical Service, Inc. Board in the fulfillment of their duties as corporate directors. Three of the eight physician board members individually addressed communications to the Council advising the Council they could not abide by the implications of Resolution No. 5. The entire Board of Connecticut Medical Service, Inc. voted on February 5, 1960, and notified the Council on February 8, 1960, quote:

> "That the Board of Directors of Connecticut Medical Service, Inc. notify the Connecticut State Medical Society House of Delegates and the Council of the Connecticut State Medical Society that the legal duties of Directors preclude commitments to problems that the Board may face in discharging its public trust and therefore rejects the implications of resolution No. 5 as passed by the House of Delegates on January 27, 1960."

This action is the last official communication the Council has received from the Connecticut Medical Service, Inc. Board. Members of the Medical Advisory Committee of Connecticut Medical Service, Inc. have informed members of the Council that the Medical Advisory Committee was requested to consider a revision of the $5000. contract with additional medical benefits and new contracts of $6000. and $7000. income level; and to make recommendations to the Board of Connecticut Medical Service, Inc. The Medical Advisory Committee, feeling bound by the House action of January 27, 1960, recommended a $6000. income level contract. Some of the same committee members however, have expressed the hope that the House of Delegates will broaden the latitude set by the House in limiting the income level to the $6000. figure.

The Council has had no further official information with respect to contract developments. The Chairman of the Council was directed by the Council, meeting on March 10, 1960, to seek a meeting of the Connecticut Medical Service, Inc., and Connecticut State Medical Society Joint Liaison Committee at an early date. The Chairman of the Council requested such a meeting of the President of Connecticut Medical Service, Inc., but has not been given a date for the meeting because the Board of Connecticut Medical Service, Inc., which was to act upon the request has an adjourned meeting to be completed; and furthermore some of the Board were absent at the time, attending a National Blue Shield Conference in Los Angeles.

If progress in Connecticut Medical Service, Inc. contract development is to proceed this House must unequivocally clarify whether the Council has fulfilled its informal agreement of August 1958, with the National Blue Shield Mediators, namely to recommend to the House of Delegates the restoration of the terminology "at least 50 per cent service." In spite of the actions of the House on January 27, 1960, the original mediators, after reviewing the complete minutes of that meeting, have stated that in their opinion the Council has not fulfilled the commitment of August 1958.

Further, it would be advisable for the House to consider a new Resolution No. 5. A legal opinion obtained by the Connecticut Medical Service, Inc. Board states: "Resolution No. 5 appears to create an anomalous situation, legally and morally, which all the physician directors have recognized by voting to inform the Connecticut State Medical Society that they do not consider themselves "bound." However, this does not solve the difficulty, since Connecticut State Medical Society can replace these Directors with others who do consider themselves bound to follow Connecticut State Medical Society dictation. This is wrong, and it is no answer to say that these directors are only enjoined to "observe and further the "intent" of the other resolutions."

The opinion goes on to state an unwillingness to approve legally the relationship between the Connecticut State Medical Society and Connecticut Medical Service, Inc. if Resolution No. 5 is not withdrawn by the House of Delegates.

I recommended that the House of Delegates consider and act upon these opinions because the relations between Connecticut Medical Service, Inc. and the Connecticut State Medical Society depend upon their clarification and furthermore, unless agreement in this regard is reached between the two organizations, authority outside each organization may decide the issue in a manner which each organization cannot wholeheartedly endorse.

Legislative proposals, especially of the Forand type, have been extensively discussed in the Council and every effort has been made to alert not only the individual physician, but also groups outside the profession, of the perils to good quality medical care under such schemes. The Journal of the Connecticut Medical Society and a special supplement—Connecticut M.D. (approved by the Council) have been made use of to make available to all the membership current information on Socio-economic trends. The Council wishes to commend the County Society Officers for the active role the County Societies have played in bringing to our legislators and the public, Medicine's evaluation of current medical legislation. A sustained effort must be continued so that in this election year, with the strong currents of politics in the wind, no medical measure is imposed upon an uninformed public which shall result in a deterioration of good medical care, the conversion of a large segment of our population into wards of the State, and the subjection of the medical profession to a political bureaucracy.

During the past month, the Commission on Services to Elderly Persons has had public hearings in Torrington, Stamford, Norwich, and Hartford. Your Society had representatives at all of these meetings to present the views of the physician. These hearings were important because the Commissioner is preparing recommendations to present to the Connecticut General Assembly in 1961.

Numerous intra-organizational matters reached the agenda of Council Meetings. Hamden High School was approved as the permanent site for the Annual Meeting of the Society, except in cases in which another County Medical Association requests the privilege of being host to the Society. A Clinical Congress for 1960 was approved by the Council upon recommendations of the Committee on Post Graduate Education; $5. was established as a registration fee. The Chairmen of all Advisory Committees were informed that any recommendations they may plan to make to the agencies to which they are advisory should be brought to the attention of the Council for prior consideration. In this way, it is felt that possible embarrassment to the Society in the matter of "approving" policies and actions of these allied agencies, can be avoided.

The past two years have been an extraordinary experience for your Council. Practically every meeting of the Council required the surmounting of some crisis. After searching discussion of the problems presented, the Council has invariably united in arriving at decisions. Certainly this is progress when one recalls that two years ago the Council was divided into two table groups on opposite sides of the Council Meeting room. An example of the solidarity in thinking of the Council is approval of the Nominating Committee's report by 17 affirmative votes and but one nay vote. It is a great honor for me to publicly acknowledge the unselfish dedication of leadership of the men of your Council. A perusal of the minutes of the Council Meetings accurately presented in our Journal bear witness to the achievement of your Council.

I now address you with neither rancor or bitterness in the fading twilight of my Chairmanship and with but one purpose in mind—namely—the best interest of the Connecticut State Medical Society. I do not stand here as an advocate for any partisan cause, for the issues are fundamental and reach quite beyond the realm of partisan consideration. They must be resolved on the highest plane of State Society interest if our cause is to prove sound and our future secure.

One of the tenets of democracy is a repugnance to anyone who would steal from a human being that which is most precious to him—his good name—either by inputing things to him by smear, unsubstantiated attacks, innuendo or insinuation; and it is an especially unhappy circumstance that when this is done in the name of democracy. Yet, on good authority, it was recently reported to me that I am accused, while acting as Chairman of the Council, of deliberately refusing to recognize a member of that body when he wished to object to a proposal being considered. I deny the accusation, and call as witnesses men sitting in this room who have observed my actions, not only as Chairman of the Council but also as speaker of this House of Delegates. I invite any member here in the assembly to stand and challenge my denial of the accusation—Hearing no challenge I dismiss the charge as a deliberate falsehood.

The Council as a body has been accused of quote "corruption stinking from here to St. Ronan Street." As I did at the January 17, 1960, Special Meeting of the House, I now repeat—anyone having substance to verify this charge let him or them speak out now—hearing no one willing to document these charges, I therefore reject the imputation as an unmitigated slander of the Council.

In conclusion, may I express my personal appreciation and the Council's for the outstanding contribution to the Doctors of Connecticut being given by our President, Dr. Weise, our General Manager, Dr. Richards, Dr. Nahum and Dr. O'Connor of the Journal, and Mr. Burch and Mrs. Lindquist and the entire office staff. I am certain the House concurs in this expression of appreciation of the work being done by faithful officers and employees of the Society.

I wish to express the thanks of the Society to the Board of Education of Hamden, and the officials of Hamden High School for the privelege of using the facilities of Hamden High School for our meeting.

Thomas M. Feeney

RECOMMENDATIONS CONTAINED IN THE REPORT OF CHAIRMAN OF COUNCIL

INITIAL ACTION OF HOUSE OF DELEGATES: It was Voted to refer these recommendations to reference committee.

Reference Committee Report on CMS Matters Recommended in the Report of the Chairman of the Council

1. It is the committee's considered opinion that the Council has fulfilled its commitment to the National Blue Shield mediators (August 1958) when, on January 27, 1960, it recommended to the House the restoration of the terminology "at least 50 per cent service benefits" principle.

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept recommendation No. 1.

2. It is the committee's considered opinion that because of recurrent conflicts and misunderstandings concerning the application of the "at least 50 per cent service benefits principle," it recommends (continued) deletion of "50 per cent service principle" in favor of a dollar level of family (also joint and individual) income limitation for service benefits.

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept recommendation No. 2.

3. It is the committee's considered opinion that any dollar income level(s) be amenable to compromise (by the CMS Board and Medical Advisory Committee), subject to the approval of this House.

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept recommendation No. 3.

4. The committee recommends that Resolution No. 5 (adopted by the House of Delegates on January 27, 1960) be withdrawn.

FINAL ACTION OF HOUSE OF DELEGATES: Voted not *to accept recommendation No. 4.*

REPORT OF THE SECRETARY

Mr. Speaker, Mr. President, delegates and guests:

As the first of several matters I wish to report to the House, it is my sad duty to notify you officially of the recent death of Dr. Creighton Barker, for many years the Executive Secretary of this Society. I earnestly recommend that the delegates assembled here today take appropriate cognizance of his passing before the adjournment of this 168th Annual Meeting.

You will note in your agenda that these remarks are designated as "The Report of the Secretary." As of December 9, 1959, the office of Executive Secretary was abolished. The office of constitutional Secretary, of course, was retained but the duties of this post are limited to receiving membership and delegation reports from the county associations and very little else. It would seem to me therefore that it might be desirable to provide for receiving a report from the General Manager at future meetings of the House, since all duties formerly assigned to the Executive Secretary have been transferred to the General Manager. For purposes of initiating discussion, I recommend adoption of the following motion:

IT IS MOVED: "That at each regular meeting of the House of Delegates of the Connecticut State Medical Society, a "Report of the General Manager" be included as an item on the agenda of each such meeting."

There are many other important matters on which I might report that might well be of more than passing interest to you. Instead, I am submitting a rather comprehensive review of the legislative and political status of Forand-type proposals and offering for your consideration certain suggested principles which, if favorably received by the House, might prove to be of some immediate and lasting value to the public we serve and to ourselves.

During several years past, and particularly in recent months, the medical profession has been engaged in evaluating a series of somewhat similar legislative proposals, all of which have been drafted for the ultimate purpose of getting the Federal government into the business of providing health services to people over 65 years of age. These are referred to as Forand-type proposals, a designation vigorously disclaimed by the sponsors of other bills who stand on the opposite side of the political fence from Mr. Forand.

In every instance, thus far, the profession has been obliged to declare these sweeping and all-inclusive plans to be either unnecessary, unsound, unworkable and excessively costly or a combination of all four; and to warn the people that most of them contain the seed from which a system of compulsory national health insurance for the entire populace will surely grow.

We have thereby become known collectively as the constant *opponents* of these plans to benefit the aged and we are charged, most irresponsibly, with being callous to the plight of certain of our older people. Yet we have not continued to study proposals of this nature merely to find out what features they contain with which we can find fault, nor have we chosen to jump on the bandwagon of the least offensive of these bills simply because political oracles insist that one of them is bound to be passed by the Congress.

In subjecting them to medical evaluation, which is all we are really competent to do, we have found each of them wanting in certain important aspects, any one of which would seriously jeopardize the quality of medical care now being provided to the people of America by the doctors of America. It appears to us that however worthy the motives of their draftsmen, these bills have been drawn up by people who simply do not understand how medicine must be practiced and who will seemingly not admit that the objections of the medical and para-medical professions are well-founded.

"If you doctors don't like any of our plans," they say, "why don't you present us with a better one of your own?" But just as they are *not* qualified in the field of medicine, neither are we experts in economics or legislation or insurance; just as they fall short of the ideal solution—whatever the ideal may prove to be—so, it is almost a foregone conclusion that any plan of ours, while sound from the medical standpoint, would prove to have loopholes of one sort or another to which *they* would object.

For these reasons, among others, our profession has not answered, in positive terms, this challenge which is being constantly flung in our direction. Now, some of our legislators are overly confident—a few even offensively cocksure—that their proposals are without weakness or fault. They have no hesitancy in brushing aside all criticisms with unctuous and casual words of reassurance which fall pleasantly on the public ear. We doctors, on the other hand, sometimes make a rather poor showing in the public eye because of our seeming uncertainty; because, it is said, we discuss principles instead of people, because, indeed, we have reason to seriously doubt that there is a single plan, medical or otherwise, which will solve the troublesome problem of insufficient funds which has been imposed upon a broad segment of our people—not alone the aged and aging—by the inflationary economic policies which are being pursued in the business world as well as in government. This tragedy has befallen the young as well as the old—the white-collar worker, the school teacher, the self-employed and last but not least, certain of our oldsters who have been forced into retirement for one reason or another.

Now it is true that the cost of medical care has risen considerably in the last two decades, but it is also true that the vast majority of Americans—some 125 million of them—are willing and able to protect themselves against the larger costs of this care through the voluntary purchase of health insurance, the product of cooperation between medical professionals and insurance professionals.

But there nevertheless remains a certain group of people—as yet undetermined as to size—who cannot afford even the modest cost of medical-care insurance, so ravaged have been their savings and other moderate resources by the unchecked and continuing erosion of the American dollar. As we have indicated previously, this group is not made up only of old people but by people of all ages and from many walks of life. These have been called the "medically indigent," a term which is unduly harsh, perhaps, but one which clearly differentiates them from the totally indigent; the pauper; the public charge.

These are the people who are financially able to maintain decent, if not luxurious, standards in meeting most of their basic needs but who may require assistance in financing their health care through prepayment or insurance plans. These are the people—and the only people—who the medical profession take into account when our politicians talk about the Need and the Problem and the Urgency, all in capital letters, which call for the immediate passage of Forand-type legislation. It is with fear and trepidation and in anticipation of scorn from several sources, that the following set of guiding principles is presented for consideration by this House of Delegates as a modest contribution of thoughts which our Society might possibly wish to offer to those of our legislators, at all levels of government, who strive sincerely to act in the public interest and who will not turn a deaf ear to medical opinion when they feel obliged to draft medical legislation.

As an advance gesture of self-defense, especially in the event that these principles do not find favor in your eyes, I confess to you that this document is not entirely an original work of your Secretary but, in part at least, represents his reflections on the thinking and writing of many competent people—people on the national scene like Senators Goldwater of Arizona and Dirksen of Illinois and Congressmen Curtis of Missouri and Alger of Texas—people on the more local and personal level such as Mr. James Hallett of the Travelers Insurance Company, and Ellwood Weise, Jim Burch, Is Blodinger and Tom Feeney, among others, in our own Society.

I beg your indulgence while I read through this rather lengthy document. Printed copies will be distributed, in the event that you wish to act upon it later in this meeting.

SOME GUIDING PRINCIPLES ON FINANCING HEALTH INSURANCE FOR THE MEDICALLY INDIGENT

Definition

The medically indigent are defined as those persons of all ages upon whom the *cost of purchasing* an adequate health insurance program for themselves would impose an undue financial hardship. This group is not to be confused in any way with the totally indigent or public charges who are already having their medical bills paid by existing welfare agencies. Also excluded from consideration in this definition is the possible financial hardship which might be imposed on persons being called upon to make *direct payment of major medical* bills out of income or savings.

Level of Administration

Programs for assisting in the financing of health insurance for the medically indigent must be initiated and administered at the *state or local level of government.* In this way, any or all such programs can be tailor-made to meet local needs under local conditions. No federally administered plan can accomplish this objective, because the number of people involved and the costs of medical care and medical insurance vary greatly in different sections of the country and even within state boundaries in some instances.

Each state government should be the highest echelon of administration of such programs. The participation of the Federal government should be limited to providing financial assistance to the states in accordance with a workable and equitable formula.

Method of Financing

Insofar as the Federal government is concerned, contingent assistance in financing health insurance programs for the medically indigent should be achieved through the use of *general tax funds.* Under no circumstances should necessary monies be obtained from further increases in the Social Security tax rate. In round numbers, the OASDI operation is already committed to paying out nearly 300 billions of dollars to those presently entitled to benefits, yet it has only collected a total of about 70 billion dollars from this same group of people. Future generations of workers will therefore be saddled with the problem of trying to make up this ever-increasing deficit. Although we make no pretense of being economists, it is difficult for doctors, as taxpayers, to understand how it can be seriously proposed to erect any multi-billion dollar medical care program on such an apparently shaky foundation.

Type of Health Insurance

Any health insurance program purchased in full or in part by the state or local government for the medically indigent should be identical with those available for purchase by the public at large. There should be no special insurance policy for the needy, and particularly not for the aged. If only the aged or some other limited group are allowed to qualify under a government-financed arrangement, the per capita cost will be prohibitive since the insurance principle of distribution of risk will be violated. The absorption of people in this category into the ranks of the generally insured population will stimulate the growth of voluntary medical care plans and bring about continuing improvements in the scope and duration of coverage which can be shared by *all* policyholders.

Administering Agency

Any state or local agency which is charged with the administration of a program to assist in the financing of health insurance for the medically indigent should have among its members a reasonable number of doctors of medicine, representatives of the paramedical professions and the insurance industry (commercial and non-profit) and, of course, public spirited laymen who are not connected with the provision of medical care. The insurance commissioner of the state should constantly advise the agency and scrutinize its programs regularly as to soundness and adherence to insurance statutes.

All too often, bodies of this type have been made up rather exclusively of people who have no personal knowledge of the manner in which health services are rendered and, as a consequence, have tended to place restrictions on the medical and paramedical professions which are unworkable and not in the best interests of the patient.

Qualifications For Assistance

Although the use of a *"means test"* is inherently repugnant to most American sensibilities, the limited but chronic exploitation of most public assistance programs by some of their clients has proven that such a screening mechanism is necessary. It most certainly should be an integral part of a program for assisting the medically indigent in financing a health insurance plan.

Evaluation of the financial status of each person seeking assistance of this nature should be made in terms of his income, his assets, his responsible family, his present and future employability and other similar factors. This evaluation would determine what share, if any, of the required insurance premium he could reasonably be expected to contribute and what share should be paid out of allotted government funds.

Since the financial status of almost all persons is likely to change from time to time, there should be a periodic reassessment of need in each case. Only in this way can the proper interests of the taxpayer be protected.

Avoidance of Compulsion

No person, be he wealthy or of limited means, should be *compelled* to purchase health insurance or any other goods or services. Similarly, financial assistance of the type under discussion should be made available to people only on request. A compulsory program, at any level, would discourage independence and encourage reliance on the government.

Free Choice

Unfettered free choice of physician and of hospital, nursing home, pharmacy or other medical facility must be preserved. Free choice by the patient has been, and is being, guaranteed under our voluntary insurance and prepayment plans. Medical care programs operated as a direct function of government all restrict this important freedom.

Avoidance of Government Control

Governmental control of the provision of health services must be avoided under all circumstances. At no level of financial assistance to the medically indigent should the government, itself, promise to provide items of medical service or set up rigid schedules which place restrictions and limitations on those who actually perform these services. Too many physicians have been driven to distraction in attempting to equate what medical care is necessary for the patient with what is allowable under a government-written code as interpreted by a government-hired clerk.

In some areas of subsistence, inferior substitutes may prove acceptable but there can be only one quality of medical care for all—the very best. Any other method tends to create second-class citizens and to offer them second-rate medical care. The contribution of government, whether federal, state or local must be confined to rendering financial assistance—to guaranteeing the partial or complete payment of health insurance premiums on behalf of those persons who qualify for such assistance.

Subsidy of Hospital-Care Costs

Subsidy of all voluntary insuring agencies which offer for sale acceptable and reasonably uniform hospital-care insurance to everyone in the community, without discrimination as to age or physical condition, may be found to be desirable and even necessary. To insure the constantly increasing percentage of older people at a reasonable cost poses a serious dilemma for both non-profit plans and commercial carriers. It would pose an equally serious problem to any plan operated by government. High utilization by the older policyholders affects each of our voluntary agencies in a particular way. The non-profit, community-rated plan faces the problem of sharing the substantially increased costs among all subscribers. The commercial carrier, operating on experience rating, must either charge substantially higher premiums to those least able to pay or curtail the scope and duration of services covered.

Subsidy of these plans, in addition to the financial assistance embodied in these principles, may be found necessary on a trial basis by the responsible state agency. Using matching federal funds to defray the expense, state agencies might well find that such subsidy is a partial solution to the problem of higher utilization costs of the elderly, meanwhile keeping premiums as low as possible for policyholders in all age groups.

Subsidy of Doctor-Care Costs

Any necessary subsidy of doctor-care insurance for the medically indigent should be left to the discretion of the medical profession. Service benefits—the voluntary acceptance by doctors of medicine of substandard fees in full payment for their services to lower income patients—are now available on a formal and contractual basis only under Blue Shield plans. However, most physicians regularly observe the service benefits principle, when applicable, in rendering care to people of all ages whether they are insured or not. This is in the best tradition of the profession and has been a common practice among doctors since long before the advent of health insurance.

The *compulsory* acceptance of fixed fee schedules by physicians must be entirely avoided under *any* type of insurance under which *any* person is insured. Each ethical practitioner bears a moral responsibility to continue to adhere to the service principle on behalf of his own patients, with whose financial circumstances he is usually familiar. No system, however enforced, could ever *compel* him to do so unless and until the tragic day arrives when the American people allow a national system of so-called health insurance to be imposed upon them through legislation.

Utilization and Coverage

Responsibility must be shared by the insured and his physician for limiting the utilization of health services covered under insurance programs, whether self-purchased or obtained through assistance. Neither the hospital administrator nor the nursing home proprietor nor the insuring agent nor the government is in a position to admit or discharge a patient, order ancillary services or determine the need for medical and surgical treatment. Only the doctor can decide these matters and his patients must understand that insured health care is not in any sense "free" and therefore must be used judiciously and only when needed if the voluntary system of health insurance is to survive. Similarly, there must be no representations made to the tax payer that this insurance can be purchased by anyone or for anyone at the rate of "pennies a day" or through increasing some particular tax rate "only ¼ of one per cent." Any American who has bought any major goods or services in recent years knows that this is a sales pitch—a "soft sell"—which does not stand up under the bright light of experience.

Thinking particularly of the aged, doctor-care plans should strive to include a proper balance between the medical, surgical and diagnostic services covered. In the older age groups, particularly, the need for surgical care is often considerably less than for non-surgical treatment.

The ultimate goal of voluntary health insurance is to cover all medical services which are insurable or which are suitable for prepayment. At the present time, it is doubtful that so-called "first dollar coverage" is feasible. The routine office visit and the occasional house call are too common and too predictable to be paid for through insurance at reasonable premium rates. Under deductible plans, such usually minor medical expenses sometimes can be included but, for the present, the purpose of insurance is to protect people against the unpredicted and major type of medical expense.

Recommendations

It is fully realized that these guiding principles constitute only the outline of possible methods of financing health insurance for all the medically indigent, including those of our older people who may fall into this category. The intent of the principles is to accomplish this purpose while preserving to the maximum degree the proven system of medical care in this country and to encourage continuing growth and improvement of our voluntary insurance plans.

It is also realized that this House today may not wish to take definitive action on this portion of the Secretary's report without careful review and study.

It is therefore recommended:

1. That these principles be referred to the Committee on Third Party Payments of the Connecticut State Medical Society.
2. That this Committee consult with the American Medical Association, other members of the Society, appropriate representatives of allied agencies in the health-care and medico-economic fields and even interested legislators for the purpose of exploring suitable mechanisms, possible costs and other matters concerned with the development of a workable program based essentially on these principles.
3. That this Committee report its conclusions to this House of Delegates, in regular or special meeting, at the earliest possible time consistent with careful study.
4. That the Connecticut State Medical Society and its eight component medical associations continue to vigorously oppose all legislative or political programs which are not reasonably in accordance with these guiding principles.

Before concluding this report of the Secretary, let me once again thank all the loyal people who really make things run at St. Ronan St. This is no routine or stereotyped acknowledgement of the excellent quality of their work and while I shall not list them by name, I hope each one of them will sense the depth of my appreciation.

I also thank the House of Delegates for the privilege of serving the Society during the past two years, twenty months as Executive Secretary and four months as constitutional Secretary. It has been a most rewarding experience. I have met many fine people from, and in, all sections of the state—men I would otherwise have never known, in all probability. It is reassuring to me to realize that nearly everywhere it is possible for doctors to engage one another in lively discussion—even to the point of heated debate on controversial matters—and still part on friendly terms and with increased, rather than diminished, mutual confidence and respect.

Lastly, may I repeat to you, in part, the words I used in accepting your designation as General Manager just one year ago. "I . . . . take this assignment very seriously. I think some may consider it a post of authority or control, but I do not. I feel this to be a position of responsibility and trust." If these words can be considered to have been a pledge to you last April, I am privileged to reaffirm it to you in the same spirit now.

Mr. Speaker, I move the acceptance of this report, exclusive of the recommendations it contains, and respectfully request that the House consider and act upon those recommendations at the proper time during this meeting.

William R. Richards

Recommendations contained in the Report of the Secretary

1. That the House of Delegates take appropriate cognizance of the passing of Dr. Creighton Barker.

ACTION OF HOUSE OF DELEGATES: Not brought to the attention of the House through oversight.

2. That the following motion be adopted:

It is Moved: That at future regular meetings of the House of Delegates of the Connecticut State Medical Society, a "Report of the General Manager" be included as an item on the agenda of such meetings.

ACTION OF HOUSE OF DELEGATES: Not brought to the attention of the House through oversight.

3. That that portion of the Secretary's report titled "Some

Guiding Principles on Financing Health Insurance for the Medical Indigent" be acted upon by the House of Delegates in the following manner:

It is recommended:

1. That these principles be referred to the Committee on Third Party Payments of the Connecticut State Medical Society.

2. That this Committee consult with the American Medical Association, other members of the Society, appropriate representatives of allied agencies in the health-care and medico-economic fields and even interested legislators for the purpose of exploring suitable mechanisms, possible costs and other matters concerned with the development of a workable program based essentially on these principles.

3. That this Committee report its conclusions to the House of Delegates, in regular or special meeting, at the earliest possible time consistent with careful study.

4. That the Connecticut State Medical Society and its eight component medical associations continue to vigorously oppose all legislative or political programs which are not reasonably in accordance with these guiding principles.

ACTION OF HOUSE OF DELEGATES: Voted to refer entire matter to the Committee on Third Party Payments of the Connecticut State Medical Society.

REPORT OF THE MANAGING EDITOR OF THE JOURNAL

This report of the managing editor of Connecticut Medicine covers the first full year in that office. It has been a year of very harmonious relations between the chairman of the editorial board, Mrs. Vivian Feriola and the general manager's office.

The quality of the scientific articles appearing in Connecticut Medicine has improved if judged by the favorable comments of members of the society. This improvement is due to the efforts of Dr. Louis Nahum, Chairman of the Editorial Board, who has used his wide acquaintance with members of the profession to obtain articles or original work and superior knowledge for the Journal.

While high quality scientific articles must be the main objective of our Journal, it has become necessary to include articles of basic economic importance in order that the members of the State Society will have information on which to base their decisions on the economic problems which confront them now and will continue in the future. Your General Manager has submitted many articles of this type to the Journal which have been printed. They can have little value unless they are read and again your editorial board begs you to read Connecticut Medicine.

Under Clinical Medicine, articles of immediate practical value such as C.P.C. Conferences, articles on nutrition, laboratory procedures and special articles are included. We hope that this section will meet with your approval.

Connecticut Medicine is open to all medical news from all sources in the state and we hope you will not lose interest if to meet space available, your journal organization finds it necessary to edit this material.

One memorial issue, the Maurice J. Strauss issue, was published in October. It enabled us to obtain articles of value from recognized authorities in dermatology. Other issues honoring outstanding medical men of the state are in process of preparation.

Members of the Society are urged particularly to read the minutes of the meetings of the Council if they wish to be informed on what is going on in their Society. Every matter on which the Council takes any action is reported in these minutes.

As a result of a conference of State Journal Editors in Chicago held in October, attended by your Managing Editor, some ideas for improving the readability of Connecticut Medicine were obtained. Some of which have already been put into effect.

Financially the Journal has done well. The amount of advertising has increased with increased income.

Our policy is to try to have about an equal amount of reading material and advertising. As our income from advertising increases we will try to make further improvements in the quantity and quality of the contents of the Journal.

Another innovation which was made in cooperation with the general manager's office and the public relations office, is the insertion of a supplement to the Journal. This supplemental material is usually in the nature of information which calls for action on the part of the members and is in separate form, in order that members may readily carry it about and read it at an available time.

While we are always pleased to receive commendatory notices concerning the Journal, we are even more anxious to receive adverse criticism which if justified, will result in improvement of Connecticut Medicine.

The splendid work of Dr. Louis Nahum, and his editorial board, the efficient handling of the many details connected with the preparation each month of Connecticut Medicine and the many technical problems arising daily in the office by Mrs. Vivian Feriola, and the cooperation of Dr. William Richards, General Manager, have eased the work of the Managing Editor. To these individuals, as well as to Miss Teresa Carney for her good work, the Managing Editor expresses his sincere thanks.

Respectfully submitted,
Denis S. O'Connor

REPORT OF THE EDITORIAL BOARD OF THE JOURNAL

Louis H. Nahum, Chairman

Roy Barnett
Gerald J. Carroll
Irwin S. Eskwith
Frederick C. Gevalt, Jr.
Robert S. Gordon
Mark A. Hayes
Julian S. Kaiser
William J. Lahey
Julian Mandell
James V. Minor, Jr.
Denis S. O'Connor
Allan J. Ryan
Samuel Spinner
Max Taffel

President Ex Officio

Connecticut Medicine has had a good year.

The quality of the scientific manuscripts and their content have shown steady improvement. In addition, the Journal has satisfactorily played its role as the organ of our Society and its constituent parts.

With regard to the excellence of the scientific material, we are indebted to members of the editorial board and other non-official consultants who have been of inestimable help to the editorial staff. For the pleasant format and other ingenious innovations, we are indebted to Dr. Denis O'Connor, who has devoted his time, imagination and work to make our Journal a model of excellence among all the State Journals.

The Editorial Board has met twice in the past year and has considered in detail the policy of the editors, the technique of obtaining papers and editorials. Much benefit has come from such exchanges of opinion as occurred during these meetings.

The chairman wishes to express the Board's appreciation of the loyal work of Mrs. Vivian Feriola and Miss Teresa Carney.

Respectfully submitted,
Louis H. Nahum

REPORT OF THE COMMITTEE ON THE AMERICAN MEDICAL EDUCATION FOUNDATION

Charles E. Jacobson, Jr., Chairman
Fairfield: Daniel B. Hardenbergh
Hartford: Walter P. Kosar
Litchfield: G. Robert Downie
Middlesex: Harry S. Frank
New Haven: Orvan W. Hess
New London: Paul J. Gerity
Tolland: Marjorie A. Purnell
Windham: Mervyn H. Little

Two meetings of the AMEF Committee were held in 1959.

The first meeting was held in the spring and presided over by Dr. William Dobbs, chairman of the committee. Discussion was devoted to the individual efforts that each county society was to make on behalf of AMEF during the current year, and to an evaluation of the merits of the voluntary $15 state wide assessment that was in current operation.

During the summer Dr. Dobbs resigned as chairman of the state AMEF committee in order to accept the chairmansip of the regional AMEF committee, and appointed Dr. Charles E. Jacobson, Jr., to serve as state chairman pro tem until such action was confirmed by the Council.

The fall meeting was presided over by Dr. Charles E. Jacobson, Jr., whose tentative appointment had been confirmed in the meantime by the Council. At this meeting the desirability of Connecticut adopting a dues increase program of $10 per member on behalf of AMEF was discussed and unanimously approved.

Several of the reasons advanced for adopting this point of view are listed below:

1. AMEF, by virtue of its growth and increasing acceptance by the American physician has established itself as a worthwhile and necessary institution.

2. Recognition of the financial needs of our medical schools and of each physician's obligation to meet this need is a proper concern of organized medicine, and one in which a state medical society may justly enter with its collective approach and effort.

3. All voluntary programs, however successful, fall far short of the success achieved by the various dues increase programs.

4. The dues increase program is the simplest, and most successful program yet devised to raise funds on behalf of AMEF, and has been adopted by the following states: Illinois 20; California 10; Nevada 20; Utah 20; Arizona 10; Indiana; Idaho 10.

5. The increase in dues contemplated in Connecticut is nominal ($10-$15) yet it would result in a substantial increase in Connecticut's contribution to AMEF.

6. The dues increase programs, in addition to producing substantial increases in contributions to AMEF, have actually encouraged and produced an increase in the voluntary contributions to our medical schools.

7. There has been no significant loss of membership as a result of the adoption of the dues increase program, and in the large state of Illinois not a single membership was lost.

8. Adoption of the dues increase program will enable Connecticut to contribute its just share to the fund, and reduce the present inequity that now exists between Connecticut's contributions and those of the dues increase states.

9. The dues increase program in Arizona ($10 or 3 cents per day) was passed by the House of Delegates without so much as a single dissenting voice or vote.

10. Most physicians, if not all, when appraised of the fact that their tuition only defrayed one-fifth of the cost of their medical education, are only too willing to assist their schools in meeting their financial needs, and, furthermore, few physicians will argue against the dues increase program once assured that it is the most successful method available for coping with this problem.

11. A dues increase program for AMEF, if and when adopted in all 48 states, will enable the American doctor to forcefully demonstrate to the American public his concern and interest in the future of American medicine.

After much discussion it was decided that a dues increase program on behalf of AMEF would be more likely to be successful if it had its origin at the grassroots or county level. It was decided, therefore, to discuss this program at a meeting of each county organization and to present a resolution at this meeting which would instruct the county's delegates to support an AMEF dues increase program when it is brought up for action at a meeting of the House of Delegates. An appeal for a dues increase program on behalf of our American medical schools, arising in this manner and with prior discussion at a meeting of each county society, would be more apt to pass than a resolution presented directly by the Council to a cold, uninformed and uninstructed House of Delegates.

The following resolution was approved for presentation at the next regular meeting of each county association:

(Item 5 on Agenda)

Whereas: It is certain that most members of the Connecticut State Medical Society firmly believe in the necessity for preserving reasonable individual freedom in the practice of medicine, and

Whereas: A most important adjunct to the preservation of freedom in medical practice is the maintenance of freedom in the area of medical education, and

Whereas: Physicians should be expected to contribute, in deeds as well as words, toward the preservation of these freedoms, and

Whereas: Financial support of the medical schools of America, through the American Medical Education Foundation or otherwise, is not being equally provided by all the members of the Connecticut State Medical Society, and

Whereas: It seems only fitting that each physician should make at least a minimal contribution toward the preservation of the medical freedoms in which he believes, therefore

Be It Resolved: That the Connecticut Medical Association approves the annual assessment of ten dollars on each member of the Connecticut State Medical Society as a contribution to the American Medical Education Foundation, beginning in the year 1961, and

Be It Further Resolved: That each member of the Society, so assessed, reserves the right to assign his contribution to the American medical school of his choice or to the AMEF General Fund, and

Be It Further Resolved: That this resolution be transmitted to the Council of the Connecticut State Medical Society with the recommendation that such an assessment be made on each member of the Society and that the resolution be placed on the agenda of the next meeting of the House of Delegates for consideration and action.

So far this resolution has been presented at the Tolland and Litchfield meetings, and has been favorably endorsed by both societies.

Respectfully submitted,
Charles E. Jacobson, Jr.

1. On the AMEF Resolution contained in the report regarding a $10.00 dues assessment for AMEF, which had been submitted to each county medical association for action, the County associations' vote was reported to the House of Delegates as follows:

Fairfield	*NO*	*New Haven*	*NO*
Hartford	*NO*	*New London*	*NO*
Litchfield	*YES*	*Tolland*	*YES*
Middlesex	*NO*	*Windham*	*NO*

ACTION OF THE HOUSE OF DELEGATES: Voted NOT to adopt the AMEF Resolution contained in the Committee's Report.

2. On the Report of the Committee on the AMEF,

ACTION OF THE HOUSE OF DELEGATES: Voted to accept the report, as amended to exclude the resolution.

REPORT OF THE COMMITTEE ON THIRD PARTY PAYMENTS

Max Alpert, Chairman

Frank Abbott	Francis Gallo
Max Caplan	Charles Polivy

The Committee on Third Party Payments met on seven occasions during the year.

During July 1959 the five members of this Committee attended the New England Regional Conference on Relative Value Studies held in Boston. This meeting was of value in defining the scope and operation of Relative Value scales, particularly the California experience.

From June through September, 1959 the Committee participated fully in the Council's sub-committee on "Opinion Survey."

Meetings of the Committee were held at intervals through March, 1960.

It is the considered opinion of this Committee that unless it is enlarged to include the chairmen of all committees in the Society having functions relating to Third Party Payments, it can function neither effectively or usefully.

A recommendation to this effect has been submitted to the Council through the special Committee to Revise the By-Laws, re Third Party Payments Committee.

A meeting of this Committee is in preparation to which the Third Party Payments Committees of each county in the state will be invited. It is contemplated that some basic concepts of Third Party Payments be formulated at this time, and it is the hope that statewide representation will result in a more dynamic approach to the problem of Third Party Payments.

Supplementary Report

The Committee on Third Party Payments met in a special session on April 19, 1960 to review the action of the Section of Radiology in entering into negotiations with the Compensation Commissioners to raise "radiographic compensation fees by 25 per cent" and "to establish a rating system for payment of radiographic examinations as follows:

Class A. Board Radiologist or Board Eligible Radiologist to be compensated at 100 per cent of the fee schedule.

Class B. Members of other specialty boards, as orthopedic, genito-urinary, etc., to be compensated at 75 per cent of the fee schedule.

Class C. All other physicians to be compensated at 50 per cent of this fee schedule.

These negotiations were entered into without the prior knowledge of this Committee, the Council of the Connecticut State Medical Society or the membership of the Society at large.

It is the considered opinion of this Committee that the Section on Radiology was in error in entering negotiations that are binding on the entire profession.

It is felt that a Section or a Committee taking an action on its own that affects Sections or Groups of "interested physicians" other than themselves, is acting in a manner contrary to the best interests of all physicians.

This Committee therefore recommends that the following resolution be adopted by this "House of Delegates":

> RESOLVED: that no interested section, group or individual practitioner, member of the Connecticut State Medical Society negotiate or approve any changes in existing fee schedules of Third Party Agencies without submitting a request for such changes to the Connecticut State Committee on Third Party Payments for their consideration and recommendation to the Council and/or the House of Delegates.

Respectfully submitted,
Max Alpert

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept the report and adopt the resolution.

REPORT OF DELEGATES TO COUNCIL OF THE NEW ENGLAND STATES MEDICAL SOCIETIES

Oliver L. Stringfield Thomas M. Feeney
Ellwood C. Weise, Sr.

The semi-annual meeting of the New England Council was held at the Hotel Statler in Boston on November 4, 1959.

At this meeting, the by-laws were revised and amended by vote of the members present. The principal change, insofar as the Connecticut State Medical Society is concerned, increases the representation from each component state medical society to include the following:

1. Presidents and Presidents-Elect.
2. AMA Delegates and Alternates.
3. Constitutional Secretaries.
4. Paid Executive Officers.
5. Chairmen of Legislative Committees.
6. Chairman of Committees on Medical Economics and Insurance.
7. Editors of New England Medical Publications.
8. Chairmen of Committees on Medical Education.
9. Chairmen of Committees on Rural Health.
10. Chairmen of Committees on Public Health.
11. Chairmen of Committees on Medical Defense.
12. Three delegates-at-large from each State Society.

Attendance at meetings has been somewhat disappointing in recent years and it is hoped that by this revision, greater participation of the component societies will result. It is also felt that an exchange of information relative to Blue Shield, medical education, medical discipline, relative value studies, legislative programs, and activities and other important matters of mutual interest will be made possible by increasing representation in this way.

One of the major programs being undertaken is the exploration of the possibility of developing regional insurance, investment and retirement plans by the New England Council's Committee on Medical Economics and Insurance. It is believed that a pool composed of some 13,000 physicians in the six New England states might permit substantial savings to be realized by individual members in purchasing various types of insurance and that such pooling might also create investment and retirement programs of wide interest and appeal. M. David Deren, Bridgeport, is chairman of the Medical Economics and Insurance Committee.

The annual meeting of the New England Council will be held at Swampscott, Massachusetts, on April 24, 1960. Any important developments will be reported to the House of Delegates of the Connecticut State Medical Society which convenes two days later, on April 26, 1960.

Supplementary Report:

The General Manager gave a supplementary report to the printed report and described the deliberations of the Annual Meeting of the New England Council on April 24, 1960.

He referred to the following matters.

1. That a question has been raised as to whether the Council of the New England State Medical Societies is an autonomous body, capable of taking actions and embarking on projects without prior review and approval of the component state medical societies.

2. That, since in addition to the three official elected delegates from the Connecticut State Medical Society to the New England Council, the latter body has listed many additional members of the Society, by virtue of their office, as "representatives" to the New England Council (published in the report of the Committee), questions have arisen as to (a) who shall be voting members of the New England Council and (b) as to what authority even our three official delegates shall have in voting to approve proposed actions of the New England Council which will, directly or indirectly, commit the Connecticut State Medical Society to support such actions, and/or underwrite a portion of their costs.

William R. Richards

FINAL ACTION OF THE HOUSE OF DELEGATES: It was Voted that the Council shall appoint an ad hoc committee to review and re-examine the relationship between the Connecticut State Medical Society and the Council of the New England State Medical Societies.

REPORT OF THE COMMITTEE ON MEDICAL CARE OF VETERANS

George A. Buckhout, Chairman

Francis D. T. Bowen	Samuel B. Rentsch
Edward R. Comstock	Roy V. Sanderson
Francis J. Kalaman	Paul M. Sherwood
Andrew P. Owens	Benjamin M. Shenker

Three meetings have been held in the last fiscal year. General Raymond Watt, Commandant at the Veterans Home and Hospital, Rocky Hill, was present at the meeting of June 25, and gave our Committee a report. He also presented a list of names of physicians who had been nominated to its attending staff. This list was approved subject to final clearance from the State office. General Watt spoke at some length about the problem of accepting alcoholic veterans for commitment. The hospital is not set up to handle such cases, and requests that outside physicians not direct such patients to them.

At the same meeting Drs. Kaufman and Greene (physiatrists) complained that their specialty was not being recognized nor separated by appropriate fees from physiotherapists, etc. They presented a fee schedule for their field. This was thoroughly discussed at this and the next meeting, and approved to be sent on to the Veterans Administration.

The entire fee schedule was reviewed at the November meeting. It had not been reviewed for several years. Most of the fees were rated upward in conformity with changing national economy. These were sent to the District Office of the V.A. in Hartford. If approved the new schedule will be in effect at the beginning of the new fiscal year, July 1, 1960.

The last meeting was spent almost entirely in a discussion of what we have in the past called, "The Veterans Administration's Tendency Toward the Socialization of Medicine." We have called the attention of the State Council to it at an earlier date, and reported on it in the annual report of 1959. Many have read about it. An excellent discussion of it was printed in the December 1959 issue (page 70) *Current Medical Digest*, by Amos R. Koontz, M.D. At least one Connecticut physician has called on our committee to take some action on it.

The Committee on Medical Care of Veterans has been aware for a long time of the attitude of the Veterans Administration concerning:

(1) Treating non-service connected disabilities of veterans in V.A. clinics and hospitals. (This is said to be a huge 85 per cent of all their cases.)

(2) Directing more and more of the veterans, who have been getting "Home Town Care" from private medicine, into V.A. clinics and hospitals. (Most of this work was done by the home town physicians after World War II. Now in

Connecticut at least most of it is being done in V.A. institutions.)

We are therefore faced with a tendency toward socialization right within the framework of our government. What are some of the possible eventualities?

(1) Veterans immediately become special privilege citizens. They need but to organize (and this has been going on) and any steps they now take, which may have the taint of illegality, will soon be changed, and all veterans (and soon their families) will have medical attention at the expense of the taxpayer. No matter what name it is given, its real name is "socialization." What reason for all civil service employees then, not to raise their combined voice for similar care, and who will stop them?

Theoretically all veterans could have service connected disabilities cared for by home town physicians, and in local hospitals. The V.A. now dictates quality of care and fees paid. This could continue and at a considerable savings to the taxpayer. Only in very unusual cases would a veteran need to be separated from his family, and sent to a large medical center for specialized care. Veterans with non-service connected disabilities would be treated like any other citizen. He and his non-veteran friend, would be treated alike, and if unable to defray medical expenses would receive it as a ward of his local government. This would not in any way debase him, but would be using a system this country has known for many years.

(2) V.A. hospitals are increasing bed space and funneling off medical cases from local hospitals. This could threaten the healthy management of some local hospitals. Let us assume that some areas are helped by a modern V.A. hospital, and let us recognize that medical men entering this system can do a fine job, and be proud of their contribution to society. Their work would be specialized; for in time all patients would be classified as chronically ill. However, this is not the case. V.A. hospitals, because they have a residency training program *must* encourage all types of cases, chronic and acute to them. Veterans with service connected disabilities would not begin to supply the numbers nor diversity of type cases desired. Therefore the huge build up with non-service connected cases. Stop this practice today, and we would soon see a V.A. medical program more nearly like that we expected to see when all this began. Stop this practice today and a large number of residents would be made available to general private hospitals which need them so badly.

It is toward stopping this practice that our Committee has bent its efforts. We recognized that serious problems could newly arise with these recommendations. It was generally agreed that something should be recommended to our State organization.

The Maryland State Medical Society has done a great deal of work in this area. For the past two years, they have recommended to each State organization and to the AMA that V.A.

"(1) Limit Federal medical care of all veterans to service connected disabilities.

"(2) Have veterans with service connected disabilities cared for by the Armed Forces hospitals or by local civilian hospitals on a Home Town Care basis. U. S. Public Health Service hospitals might also be used to a limited extent.

"(3) If and when Number 1 and Number 2 are accomplished, a study be made from the State level as to the disposition of the Veterans Administration hospital facilities. Consideration should be given to turning them over to the States, possibly as hospitals for tuberculous and neuro-psychiatric patients."

This may or may not be the most effective method, though it has much merit. The Committee on Medical Care of Veterans of the Connecticut State Medical Society, therefore makes the following recommendations to the House of Delegates: *That an appropriate resolution be drafted by the General Manager encompassing the following points:*

To enumerate our objections to the V.A. program as it now stands.

To call for an investigation (probably by Congress) of the entire system.

That copies of this drafted resolution be sent to each State Medical Society and to the AMA.

Respectfully submitted,

George A. Buckhout

INITIAL ACTION OF HOUSE OF DELEGATES: Referred to Reference Committee.

Reference Committee Report

This committee recommends the approval of the report and recommendations by the Committee on the Medical Care of Veterans. We wish to point out that the actions stated in paragraph three are not in consonance with the resolutions adopted by the House of Delegates as submitted by the Committee on Third Party Payments. (See Report of Committee on Third Party Payments).

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept the recommendations of the reference committee.

REPORT OF THE ADVISORY COMMITTEE TO THE STATE COMMISSIONERS OF WELFARE, FINANCE AND CONTROL

Edwin R. Connors, Chairman
John E. Franco
Mark A. Gildea
Maxwell Lear
Edward Nichols
Leonard Parente
Edward Resnick
J. Harold Root, Sr.
Edwin F. Trautman
Harold D. vonGlahn

The committee met on May 13, 1959, to consider regulations contained in a directive of the Welfare Department regarding the use of prescriptions. The chairman reported on a joint meeting of the Interprofessional Relations Committee of the Connecticut State Medical Society and the Connecticut Pharmaceutical Association held on May 7, 1959. It was decided by the committee that the optional use of the provided form (W-506), or the duplicate of the physician's own prescription blank, would remove the objection voiced by the many complaints registered. On the matter of refills of prescriptions it was voted that the physician, as in his own private practice, could phone the druggists, as long as a following prescription would insure payment of the druggist. The prescribing of a sufficient quantity of drugs for a ninety day period was favorably acted on by the committee. The statement, "Drugs that have been prescribed and administered over a long period, should be continuously appraised to determine their effectiveness and the advisability of their further use," was reaffirmed as a policy adopted by the committee in 1954. The action taken by the committee at this meeting was forwarded to the Council of the State Medical Society, since that body had requested the action of this committee on this matter.

At the request of the Commissioner of Welfare and the Commissioner of Finance and Control, the committee met on October 28, 1959, to discuss among other subjects, the revision of the Practitioners Fee Schedule (M.D. section). On this matter ground work was processed and the members of the committee were given previously issued Fee Schedules and recommendations for changes to be studied for action at the next meeting which will be devoted entirely to the revision of the Fee Schedule. The committee was acquainted with the fact that the Welfare Department's expenditure for prescribed drugs had tripled since 1954 and averaged close to $4,000 per day. The Commissioner of Welfare and the Commissioner of Finance and Control asked for the assistance of the committee in this matter and stated that the amount to be expended in the future would be reduced to $2,000 a day. The policy stated was, "that beneficiaries of the State Welfare program would get only the drugs necessary, for the people that absolutely needed them, and it could not pay for drugs that were merely desirable or convenient." It was voted that this information be given to the members of the Connecticut State Medical Society and be reiterated periodically through the media of the JOURNAL of the State Society.

On December 16, 1959, the committee met to discuss the revision of the Fee Schedule and after much discussion it was voted to adopt the following resolution and to present it to the Commissioner of Welfare and Finance and Control. "The committee recommends adopting Relative Value Scales in connection with the revision of the Fee Schedule for Practitioners of the Healing Arts and Allied Professions. The committee proposes that the routine office call be considered as one unit, with a value of $4. The committee proposes that this unit be applied to the Relative Value Schedule when adopted by the Connecticut State Medical Society." The above resolution was presented to the Commissioner of Welfare and through him to the Commissioner of Finance and Control.

Mr. Bernard Shapiro, Commissioner of Welfare and Dr. Franklin Foote, Commissioner of Health, were present at the February 2, 1960, meeting of the committee to discuss the problem of the expenditures of state funds for purchase of drugs on prescriptions for beneficiaries of the welfare program. The subject of prescribing of drugs under generic terms and trade names was discussed and the relative costs of each was brought to the attention of the committee. It was decided that a list of about twenty-five of the most commonly prescribed drugs be prepared with the generic names and strongly urge, in the name of economy, that physicians use this list in prescribing for beneficiaries of the welfare program. This list and the policy will be discussed at a meeting of the Pharmaceutical Association with the Interprofessional Relations Committee of the Connecticut State Medical Society. With the approval of the Pharmaceutical Association this information will be disseminated to the medical profession.

Respectfully submitted,
EDWIN R. CONNORS

INITIAL ACTION OF HOUSE OF DELEGATES: Voted to refer to reference committee.

The reference committee recommended:

1. That the Report of this Advisory Committee be accepted with the deletion of paragraph 3 beginning with the words "on December 16, 1959" and ending with the words "Finance and Control."

Commenting on paragraph 3, it was the reference committee's opinion that (a) it is contrary to the intent of the Resolution of the Committee on Third Party Payments (see Report of Third Party Payments) adopted by the House of Delegates on this date, April 26, 1960.

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept recommendation No. 1.

2. That since no Relative Value Scale has been adopted by the Connecticut State Medical Society at this time, it is improper for this Advisory Committee to refer to such a Relative Value Scale.

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept recommendation No. 2.

3. That the House of Delegates adopt the following resolution: "Therefore, be it resolved: That the House of Delegates of the Connecticut State Medical Society hereby rescinds this action of the Advisory Committee to the State Commissioners of Welfare, Finance and Control and that the Commissioners be notified of this action."

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept recommendation No. 3.

4. Commenting on the final paragraph of the report of this Advisory Committee, the reference committee recommended:

That this matter, referring to the use of generic names in prescriptions, is still under discussion by the Joint Committee of the Connecticut State Medical Society and Connecticut Pharmaceutical Association. Action on this matter should be deferred, pending recommendations from the Joint Committee with the Pharmaceutical Association.

FINAL ACTION OF HOUSE OF DELEGATES: Voted to accept recommendation No. 4.

The following reports were presented to the House of Delegates and appear as accepted. The reports which included recommendations were referred to Reference Committees and the final actions taken appears in italics under the individual reports.

REPORT OF THE TREASURER

The financial statements prepared by Seward & Monde, auditors of the Society, are printed in the agenda. These statements are respectfully submitted as the report of the Treasurer.

ISADORE S. GOLDBERG

Seward and Monde
Certified Public Accountants
205 Church Street
New Haven 10, Connecticut

The Connecticut State Medical Society
New Haven, Connecticut

We have examined the balance sheet of The Connecticut State Medical Society as of December 31, 1959, and the related statements of income and surplus for the year then ended, have reviewed the system of internal control and the accounting procedures of the Society, and without making a detailed audit of the transactions, have examined or tested accounting records of the Society and other supporting evidence by methods and to the extent we deemed appropriate.

General Fund:

Cash in banks, reconciled and confirmed by direct correspondence with the depositories, is accounted for as follows:

Commercial accounts:		
Second National Bank of New Haven:		
Journal collections	$ 1,056.65	
Journal revolving fund	6,000.00	
General Manager's office revolving fund	6,000.00	
Income cash account	11,192.52	
Principal cash account	74.29	
		$24,323.46
Savings accounts:		
Connecticut Savings Bank, New Haven	$19,348.90	
New Haven Savings Bank, New Haven	19,664.93	
National Savings Bank, New Haven	10,530.39	
Chelsea Savings Bank, Norwich	273.81	
Milford Savings Bank, Milford	13,009.97	
Society for Saving, Hartford	15,000.00	
		77,828.00
Total		$102,151.46

The Second National Bank of New Haven confirmed directly to us that as of December 31, 1959, they held the following securities as agent for the treasurer of The Connecticut State Medical Society:

United States Treasury Bonds:

FACE VALUE	RATE AND MATURITY		BOOK VALUE	MARKET VALUE
$2,000	3½%	1960	$2,000.00	$1,989.37
7,000	2½%	1969	6,795.73	5,726.87
5,000	2½%	1970	5,000.00	4,037.50
3,000	2½%	1971	2,979.11	2,411.25

Province of Canada Bonds:

3,000 Province of Nova Scotia 3⅝%, Deb. due March 15, 1964	2,988.75	2,865.00
3,000 Province of Saskatchewan 3⅛% due February 1, 1966	3,021.60	2,722.50
Stock:		
50 shares Celanese Corp. of Amer. Ser. A 4½% cum. preferred	5,181.25	3,975.00
Total	$27,966.44	$23,727.49

Dues receivable of $2,244 are segregated by counties as follows:

COUNTY	AMOUNT
Fairfield	$ 775.50
Litchfield	—
Middlesex	99.00
New London	66.00
Hartford	792.00
New Haven	429.00
Tolland	—
Windham	82.50
Total	$2,244.00

Annual Meeting Fund:

Cash was confirmed directly.

Gurdon W. Russell Fund:

Cash was confirmed by direct correspondence and the Second National Bank of New Haven confirmed directly to us that as of December 31, 1959, they held the following fund securities as agent for the treasurer of the Connecticut State Medical Society:

FACE VALUE	BOOK VALUE	MARKET VALUE
$600 New York, New Haven and Hartford Railroad Co. 4%—due 2007	$ 397.62	$ 227.25
$900 New York, New Haven and Hartford Railroad Co. 4½%—due 2022	308.64	160.87
5 shares New York, New Haven and Hartford Railroad Co. 5% conv. pfd. stock—Series A	128.04	60.00
$1,000 Boston and Albany Railroad Co., 4¼% improvement bonds, due August 1, 1978	820.00	635.00
Totals	$1,654.30	$1,083.12

Accounts receivable—journal of $11,646.04 consists of $9,847.97 due from advertisers and $1,798.07 for reprints.

Accounts payable—journal of $1,227.37 represents amounts due for printing expenses in connection with reprints.

The following is a comparison of budgeted and actual general expenses:

	ORIGINAL BUDGET	ADDITIONAL ALLOTMENTS APPROVED BY COUNCIL DURING THE YEAR	ALLOTMENTS	ACTUAL	ACTUAL UNDER OR OVER* BUDGET
General manager's office	$ 30,640.00	$ 9,733.28	$ 40,373.28	$ 38,621.14	$ 1,752.14
Treasurer's office	7,295.00	—	7,295.00	6,968.38	326.62
General and contingent	15,075.00	—	15,075.00	12,081.49	2,993.51
Public relations	20,585.00	—	20,585.00	18,961.48	1,623.52
Committee allotments	5,850.00	2,431.60	8,281.60	4,892.48	3,389.12
Building maintenance	12,075.00	—	12,075.00	11,740.76	334.24
Journal	57,975.00	2,860.00	60,835.00	61,116.00	281.00*
Totals	$149,495.00	$15,024.88	$164,519.88	$154,381.73	$10,138.15

O. C. Smith Fund:

We confirmed the principal and income cash by direct correspondence.

Building Fund:

During the year funds have been transferred from the general funds to the funded reserve for depreciation. Cash of $18,559.14 on deposit in the Connecticut Savings Bank was confirmed directly.

Clinical Congress:

Cash was confirmed directly by the depositories.

General:

The secretary's office has acted as collection agent for The American Medical Association's dues for the year 1959. At December 31, 1959, all collections to that date had been remitted to The American Medical Association.

In our opinion, the accompanying balance sheet and statements of income and surplus present fairly the position of The Connecticut State Medical Society at December 31, 1959, and the results of its operations for the year, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Seward and Monde
Certified Public Accountants

New Haven, Connecticut
March 17, 1960

Balance Sheet, December 31, 1959

GENERAL FUND

ASSETS

Cash	$102,151.46
Investments (market value $23,727.49)	27,966.44
Dues receivable—1959	2,244.00
Accounts receivable—Journal	11,646.04
Automobile emblems on hand	243.00
Prepaid insurance	842.44
Total	$145,093.38

LIABILITIES

Accounts payable:	
Journal	$ 1,227.37
Accrued commissions—1959 dues	8.40
Surplus	143,857.61
Total	$145,093.38

ANNUAL MEETING FUND

ASSETS

Cash	$ 14,080.94
Prepaid expenses—1960 annual meeting	35.74
Total	$ 14,116.68

LIABILITIES

Surplus	$ 14,116.68
Total	$ 14,116.68

SPECIAL FUNDS

ASSETS

Gurdon W. Russell Fund:		
Cash	$ 4,978.06	
Investments (market value $1,083.12)	1,654.30	
		$ 6,632.36
O. C. Smith Trust Fund:		
Principal cash	$ 1,000.00	
Income cash	453.08	
		1,453.08
Building Fund:		
Land	$ 12,270.31	
Building and equipment	140,172.20	
	152,442.51	
Cash—savings account (funded reserve for depreciation)	18,559.14	
		171,001.65
Clinical Congress:		
Cash		3,341.67
Total		$182,428.76
Grand total		$341,638.82

LIABILITIES

Gurdon W. Russell Fund—capital		$ 6,632.36
O. C. Smith Trust Fund—capital		1,453.08
Building Fund:		
Reserve for depreciation	$ 18,559.14	
Capital	152,442.51	
		171,001.65
Clinical Congress—capital		3,341.67
Total		$182,428.76
Grand total		$341,638.82

Statement of Income and Surplus

General Fund

Year Ended December 31, 1959

Income:		
Dues earned	$ 99,573.00	
Less, commissions paid	330.05	
		$ 99,242.95
Interest and dividends received		3,101.39
Rental income		3,960.00
Income from collection of AMA dues		621.25
Gross income		$106,925.59
Expenses:		
General manager's office	$ 38,621.14	
Treasurer's office	6,968.38	
General	9,662.61	
Contingent fund	2,418.88	
Public relations	18,961.48	

Committee allotments	4,892.48	
Building maintenance	11,740.76	
		93,265.73
Excess of general income over expenses		$ 13,659.86
Add, excess of income over expenses—Journal operations		5,687.38
Net income		$ 19,347.24
Surplus, January 1, 1959		124,510.37
Surplus, December 31, 1959		$143,857.61

Details of Expenses
Year Ended December 31, 1959

General manager's office:

Personal services		$34,831.38	
Less, reimbursements from:			
Treasurer's office	$4,000.00		
Medicare and outside addressing	126.75		
Committee expense	486.50		
Collection AMA dues	1,000.00		
		5,613.25	
			$ 29,218.13
General manager's expense			345.35
Pension—former executive secretary			6,000.00
Office supplies			384.72
Printing and postage			879.90
Automobile expense			653.84
Telephone and telegraph			150.03
Bank charges			6.64
Publications			20.90
Social security taxes			493.76
News letter			444.73
Miscellaneous			23.14
Total			$ 38,621.14

Treasurer's office:

Clerical and bookkeeping services		$ 4,000.00
Auditors		720.00
Fiscal agent		530.00
Postage and printing (collection of society dues)		368.00
Collection of AMA dues:		
Personal services	$1,000.00	
Postage and printing	298.00	
		1,298.00
Telephone and telegraph		34.55
Miscellaneous		17.83
Total		$ 6,968.38

General:

Chairman of council	$ 300.00
President of Society	300.00
Council	1,692.93
Delegates to AMA convention	1,576.06
Blue Cross premiums for employees	401.55
Employees pension fund	5,392.07
Total	$ 9,662.61

Contingent Fund:

House of Delegates Semi-Annual Meetings	$ 398.80
Connecticut share of hospitality room—AMA meetings	188.55
Dues—Conference of Presidents	75.00
Installation of fluorescent lights	100.00
President's picture	5.00
Fifty year certificates	10.00
CMS mailings	219.00
Legal services—general manager's contract	400.00
Legislation conference—St. Louis	377.10
Conference on Physicians and Schools—Illinois	182.89
Symposium on Postgraduate Medical Education	79.94
Conference of County officers	165.20
Dues—Nutrition Council	5.00
Meeting notice cards	127.00
Dues—Chamber of Commerce	50.00
Dues—Connecticut Health League	10.00
Christmas luncheon—staff	25.40
Total	$ 2,418.88

Public Relations:

Personal services		$ 13,940.00
Printing and postage	$1,451.72	
Publications and reprints	243.75	
Clipping service	240.00	
Telephone and telegraph	364.74	
Travel and expense—AMA meetings	814.02	
Meetings of public relations committee	831.48	
Health exhibits—County Fairs	653.86	
Television productions	16.00	
Supplies and miscellaneous	202.97	
Social security taxes	202.94	
		5,021.48
Total		$ 18,961.48

Committee allotments:

Public health	$ 390.60
National legislation	814.51
State legislation	346.84
Industrial health	214.90
Pharmacy joint committee	181.59
Medical care of veterans	255.90
Council of New England State Medical Societies	100.00
Dental conference committee	87.85
Rural health	48.24
Cancer coordinating committee	172.05
Committee on foods, drugs, cosmetics	75.00
Committee on medical economics and insurance	108.73
Maternal mortality and morbidity	22.59
Hospital committee	338.52
Professional relations	—
Medical education and licensure	23.63
Committee on third party payments	9.22
AMEF committee	284.95
Advisory committee—State agencies	253.99
Conference committee—Bar Association	27.60
Committee on accident prevention	80.73
Cornell crash injury committee	9.99

Perinatal morbidity and mortality	15.06
Committee on eye care	6.61
Cooperation committee—Yale	—
Mental health	—
Committee to study prepayment plans	—
Casualty planning committee	—
Committee on aging	105.85
Committee for health careers	504.82
Committee on relative value study	373.43
Committee on opinion survey	39.28
Total	$ 4,892.48

Building:

Taxes	$ 3,269.20
Custodial services	1,507.56
Insurance	517.80
Electricity, gas and water	1,299.44
Fuel	701.48
Maintenance of grounds	511.17
Depreciation and obsolescence	2,200.00
Supplies	147.32
Telephone	1,113.26
Repairs and replacements	473.53
Total	$ 11,740.76

Statement of Journal Operations
Year Ended December 31, 1959

Income:			
Advertising (net of commissions)		$56,585.31	
Subscriptions		2,029.76	
Reprints		7,272.38	
Electrotypes		479.00	
Single copy		20.00	
Roster book		294.00	
Reimbursement from Medicare for printing		100.68	
Miscellaneous		22.25	
			$ 66,803.38
Expenses:			
Personal services		$14,229.72	
Manufacturing cost:			
Printing	$40,713.11		
Postage and handling	583.66		
Electrotypes	712.65		
Reprints	3,988.96		
		45,998.38	
Other:			
Printing and postage	$ 201.03		
Telephone	60.84		
Office supplies	287.82		
Sales tax	29.07		
Social security taxes	191.76		
Miscellaneous	117.38		
		887.90	
			61,116.00
Excess of income over expense			$ 5,687.38

Statement of Income and Surplus
Annual Meeting Fund
Year Ended December 31, 1959

Income:		
Exhibits		$ 8,750.00
Expenses:		
Program committee and local committee on arrangements	$ 61.47	
Telephone	37.90	
School rental and janitor service	1,102.00	
Printing and postage	1,986.61	
Badges	77.20	
Exhibit decorator, rentals and equipment	1,471.15	
Meeting operating expenses	70.53	
A. M. house of delegates	572.36	
Lunches and dinner expense (guests and entertainment)	163.70	
Extra help, clerical, police, firemen	387.35	
Speakers and visiting delegates	421.48	
Council dinner	382.35	
Photographs	62.75	
		6,796.85
Excess of meeting income over meeting expenses		1,953.15
Surplus, January 1, 1959	12,199.02	
Add, interest earned on savings account	439.71	
	12,638.73	
Deduct, purchase of canvas floor covering for use at annual meetings	475.20	
		12,163.53
Surplus, December 31, 1959		$ 14,116.68

Statement of Capital
Special Funds
Year Ended December 31, 1959

GURDON W. RUSSELL FUND

Balance, January 1, 1959	$ 7,095.27
Add:	
Interest received on savings account and securities	117.74
	$ 7,213.01
Deduct, disbursements for sundry items of equipment and furniture	580.65
Balance, December 31, 1959	$ 6,632.36

O. C. SMITH FUND

Balance, January 1, 1959	$ 1,384.60
Add, interest received on savings account	68.48
Balance, December 31, 1959	$ 1,453.08

BUILDING FUND

Balance, January 1, 1959	$152,442.51
Balance, December 31, 1959	$152,442.51

BUILDING FUND—RESERVE FOR DEPRECIATION

Balance, January 1, 1959	$ 15,826.12
Add:	
Interest on savings account	533.02
Transfer from General Fund	2,200.00
Balance, December 31, 1959	$ 18,559.14

Statement of Income and Capital Clinical Congress Fund Year Ended December 31, 1959

Income:		
Registrations		$ 1,120.00
Expenses:		
Committee meetings	$ 212.14	
Speakers	325.78	
Telephone	5.25	
Printing and postage	748.50	
Projection equipment	61.70	
		1,353.37
Excess of expenses over income		233.37
Surplus, January 1, 1959	$3,488.21	
Add, interest earned on savings account	86.83	
		3,575.04
Surplus, December 31, 1959		$ 3,341.67

REPORT OF THE COMMITTEE ON RELATIVE VALUE STUDY

Benjamin D. Thaw, Chairman

Frank K. Abbot
Roy N. Barnett
Arnold H. Becker
Cleveland R. Denton
Michael J. Esposito
Angelo L. Gentile
Lee B. Greene
J. Howard Johnston
Dewey Katz
Paul B. MacCready
Donald J. McCrann
Harry R. Newman
Edward J. Ottenheimer
Maxwell Pasternak
Earl J. Rhoades
Franklin Robinson
Steward P. Seigle
William B. Smith
Alfred B. Sundquist
Leopold M. Trifari

The Committee on Relative Value Study has had monthly meetings since April, 1959, at the State Office Building, 160 St. Ronan Street, New Haven 11, Connecticut.

The work up to date has consisted primarily of having the various Sections represented at the Committee submit the nomenclature for formulation of the questionnaire. This work has been nearly completed and the present endeavor is to crystallize the ground rules pertaining to the questionnaire and specific instructions pertaining to each individual Section as part of the questionnaire.

Dr. William R. Richards and his staff at the State office have been most helpful and cooperative in furthering the work of the Committee. It is particularly appreciated that Dr. Richards has made every effort to attend each of the meetings personally. This has made it possible to coordinate the work of this Committee with closely related other Committees, such as that on the opinion survey. In addition, it has enabled our work to progress more satisfactorily.

It is hoped that the Committee will have a compilation of a questionnaire ready by early summer of this year.

Respectfully submitted,

Benjamin D. Thaw

CLINICAL EXPERIENCES WITH 5-FLUOROURACIL

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INCREASED utilization of uracil for nucleic acid synthesis in rapidly dividing tissues[1,2] has led to the production of various analogs of this pyrimidine (Figure 1). In 1956, Welch and coworkers at Yale[3] reported on the tumor inhibitory properties of 6-azauracil and uracil-6-methylsulfone. The following year, Heidelberger, working at the University of Wisconsin in cooperation with Duschinsky and Pleven of Hoffmann LaRoche, Inc., synthesized several fluorinated pyrimidines.[4] Of these, 5-fluorouracil (5-FU) was found to have significant antimetabolic action in studies with bacteria and transplanted tumors.[5] Subsequently, clinical trials have shown that this agent has considerable biological activity in a number of human neoplasms.[6,7,8] This is a preliminary report of our experience with 5-fluorouracil at the Yale-New Haven Medical Center.

Case Material and Dosage Schedule

Patients with advanced neoplastic disorders (Table I), hospitalized either at the Yale-New Haven Medical Center or at the West Haven Veterans Administration Hospital are included in this study. The potential therapeutic efficacy and possible toxicity of this new investigational drug were discussed either with the patient or a responsible member of the family before therapy was instituted. 5-FU in 5 and 10 ml. ampules containing 50 mg./ml. was obtained from Hoffman LaRoche, Inc.† The basic dosage schedule employed was similar to that recommended by Curreri et al.[6] A single intravenous injection of 15 mg./kg./day x 5 days was given in most cases. Therapy was individualized, however, according to the general clinical status of the patient and the appearance of toxic manifestations. Subsequent courses of therapy were modified in accord with the patient's response to this regimen.

Clinical Results

Beneficial Effects: There was some degree of clinical improvement in nine of the 13 patients treated (Table I). Objective evidence of regression in tumors accessible to direct examination was observed in five. Three other patients had presumptive evi-

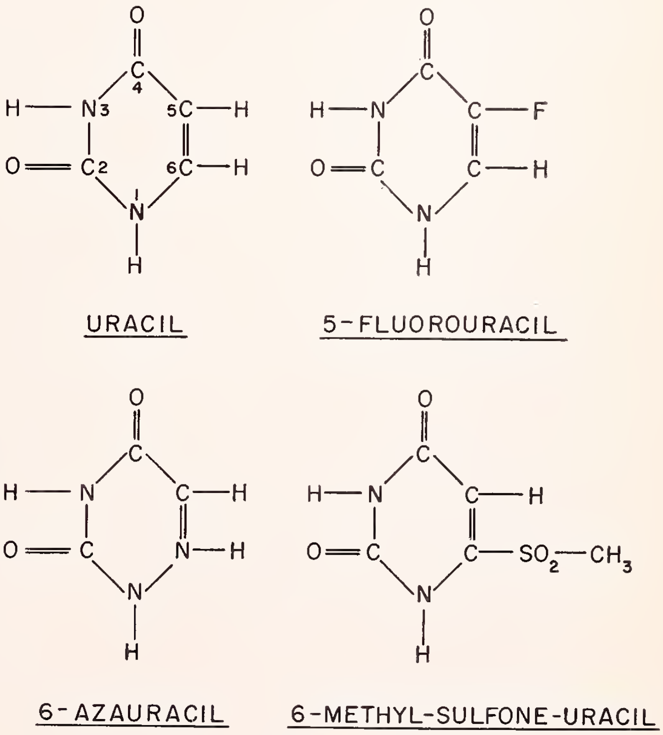

FIGURE I
Structural formula of uracil and related analogs.

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† We are grateful to Dr. M. J. Schiffrin, Hoffmann-LaRoche, Inc., Nutley, N. J., for generously supplying 5-FU.

Table I

Clinical Data on Patients Treated with 5-Fluorouracil

CASE NO.	PT.	AGE	SEX	DIAGNOSIS	THERAPEUTIC COURSE	COMPLICATIONS AND TOXIC EFFECTS	BENEFICIAL EFFECTS	DURATION OF IMPROVEMENT	PRESENT STATUS	IMMEDIATE CAUSE OF DEATH	AUTOPSY FINDINGS
1	N.B.	41	M	Epidermoid Cancer ? Primary	*No. 1* 15 mg/kg/day x 5	Nausea and vomiting. Stomatitis.	Regression of inguinal nodes with disappearance of leg edema on right.	1 month			
					No. 2 15 mg/kg/day x 4	Vomiting. Stomatitis.	Disappearance of pain and regression of lymph nodes.	3 weeks	Expired	Generalized peritonitis	Carcinomatosis with generalized involvement of lymph nodes. Multiple gastric ulcers with recent perforation of gastric ulcer
2	J.B.	42	M	Cholangiocarcinoma	15 mg/kg/day x 5	Stomatitis and esophagitis. Leukopenia (2,200)	Disappearance of pain. Increase in strength and appetite. Alkaline phosphatase from 15.7 to 2.8 Bodansky units.	3 weeks	Expired	Paralytic ileus	Cholangiocarcinoma with intraperitoneal metastases. Biliary stones and early cirrhosis
3	M.N.	72	F	Adenocarcinoma of the stomach	15 mg/kg/day x 5	Leukopenia (3,700)	None	....	Expired	Not known	Not performed
4	S.S.	30	M	Adenocarcinoma of the lung	15 mg/kg/day x 5	Vomiting. Diarrhea.	Relief of pain and dyspnea. Decrease in size of lymph node metastases. Improvement of cough and appetite.	2½ weeks	Expired	Pulmonary emboli	Adenocarcinoma of lung with widespread metastases. Thrombophlebitis of femoral veins with multiple pulmonary emboli and infarctions
5	J.C.	67	F	Adenocarcinoma of the cervix	15 mg/kg/day x 5	Lower abdominal pain during therapy. Stomatitis, esophagitis and enteritis. Severe bone marrow depression.	Disappearance of metastatic skin nodules and pain.	Until death 4 days later	Expired	Staphylococcal pneumonitis and septicemia. Bone marrow aplasia secondary to 5-FU toxicity.	Only microscopic evidence of adenocarcinoma in lymph nodes. Necrotizing pneumonitis and bone marrow aplasia.
6	F.L.	69	F	Adenocarcinoma of the breast	15 mg/kg/day x 5	Pain in axillary metastases during therapy. Stomatitis. Leukopenia and thrombocytopenia. Alopecia and hyperpigmentation.	Measurable regression of axillary metastases. Disappearance of pain.	Until death 1 month later	Expired	Myocardial infarction staphylococcal pneumonitis	Adenocarcinoma of the breast with axillary metastases. Neoplastic invasion of bone marrow and adrenals. Staphylococcal pneumonitis. Myocardial infarction.
7	L.H.	23	F	Pleural mesothelioma	15 mg/kg/day x 5	Pain in chest at site of primary tumor	Respiration improved. Less pain. Shift of mediastinum	3-4 weeks	Expired	Not determined	Not performed

CASE NO.	PT.	AGE	SEX	DIAGNOSIS	THERAPEUTIC COURSE	COMPLICATIONS AND TOXIC EFFECTS	BENEFICIAL EFFECTS	DURATION OF IMPROVEMENT	PRESENT STATUS	IMMEDIATE CAUSE OF DEATH	AUTOPSY FINDINGS
8	Ja.C.	45	M	Adenocarcinoma of the colon	*No. 1* 15 mg/kg/day x 4	None	None	....			
					No. 2 15 mg/kg/day x 4	Leukopenia (2,700)	None	....	Expired	Not determined	Adenocarcinoma of the hepatic flexure with metastases to abdominal nodes and liver
9	L.K.	74	F	Adenocarcinoma of the ovary	15 mg/kg/day x 2	Sudden death, probably unrelated to therapy.	None	....	Expired	Pulmonary embolus	Adenocarcinoma of ovaries. Thrombosis of pelvic veins. Pulmonary embolus and infarction
10	A.S.	79	M	Adenocarcinoma of the colon	*No. 1* 15 mg/kg/day x 5	Stomatitis. Alopecia.	None	....			
					No. 2 15 mg/kg/day x 3 + 7.5 mg/kg x 1	None	None	....	Refused further treatment. Expired	Not determined	Not performed
11	A.A.	65	M	Adenocarcinoma of the colon	10 mg/kg/day x 5	Stomatitis esophagitis and enteritis. Pain in area of pulmonary metastases during therapy. Prolonged leukopenia (1,200).	Disappearance of pain. Clinical and radiologic improvement of chest findings. Improvement in appetite and general condition.	2-4 weeks	Refused further treatment. Expired	Not determined	Not performed
12	H.D.	68	M	Adenocarcinoma of the stomach	*No. 1* 15 mg/kg/day x 3 + 7.5 mg/kg	None	Regression of epigastric tumor mass and radiologic improvement, improvement of liver function tests.	6 weeks			
					No. 2 15 mg/kg/day x 5	Diarrhea. Stomatitis. Leukopenia (2,500) with fever.	Disappearance of epigastric mass, Liver function tests returned to normal. Radiologic improvement of gastric lesions.	4 months	Alive and stable		
13	M.G.	53	F	Epidermoid carcinoma of the cervix	*No. 1* 15 mg/kg/day x 4	Stomatitis. Leukopenia (4,000)	Disappearance of leg pain. Weight gain.	6 weeks			
					No. 2 15 mg/kg/day x 5	Stomatitis.	Disappearance of leg pain.	6 weeks	Alive and stable		

dence of anti-tumor effect: (J. B.) the return to normal of an elevated alkaline phosphatase value accompanied by striking symptomatic improvement in this patient probably represented regression of his cholangiocarcinoma; (A. A.) radiologic and auscultatory clearing of the chest along with clinical improvement in this case was thought to indicate a chemotherapeutic effect; (L. H.) roentgenographic shift of mediastinum to normal with concomitant symptomatic improvement was interpreted as possible tumor regression in this girl with pleural mesothelioma. Another patient (M. G.) reported complete relief of pain after each of two therapeutic courses but objective measurement of improvement was not possible. Despite decrease in tumor size, death may have been related to drug toxicity in two cases, (Jo. C. and F. L.) and therefore only seven of the 13 patients can be said to have derived a final overall beneficial effect. These results are similar to the cumulative national experience[9] which indicates that approximately 40 per cent of all patients treated experienced a favorable response and an additional 14 per cent had incomplete or questionable responses.

Disappearance of pain was reported by eight of our patients to the extent that partial or complete discontinuation of narcotics was possible. Improvement of appetite and general clinical status was seen in five cases. It should be emphasized, however, that the general psychologic uplift that all these patients experience while under treatment with a "new drug" is not inconsequential and must be considered in the total evaluation of the results.

The following case report is presented as an example of an effective therapeutic response.

CASE No. 12—H. D.* — A 68-year-old white male was admitted on August 21, 1959, for terminal supportive therapy. A subtotal resection of the stomach for adenocarcinoma had been performed in 1955 and again in 1958 for recurrence. Following the second operation he gradually lost 50 lbs. During the six months preceding admission he noted the appearance of an enlarging epigastric mass, and experienced increasing weakness, dysphagia, anorexia and vomiting. He appeared cachectic and severely ill. There was intense jaundice and the firm liver border, palpable nine cm. below the right costal margin, blended into a hard epigastric mass measuring 12 cms. in diameter. A large malignant ulcer was seen on the lesser curvature of the stomach on x-ray examination (Figure 2a). The urine was dark and the stools were alcoholic. One minute bilirubin was 4.86 mg. per cent and the total bilirubin 10.14 per cent, alkaline phosphatase was 62.3 Bodansky units and the transaminase 82 units. On August 20, 1959, he was started on three consecutive daily injections of 5-FU, 15 mg./kg. On the fourth day one 7.5 mg./kg. dose of this drug was administered. Leukopenia, stomatitis and other toxic manifestations were not observed. On the ninth day following initiation of therapy two observers felt that the epigastric mass was smaller but no change in skin, urine, or stool color was noted. The patient felt decidedly better and was discharged to be followed at home. Steady improvement ensued and at the end of three weeks the icterus was completely gone, the urine and stool were normal in

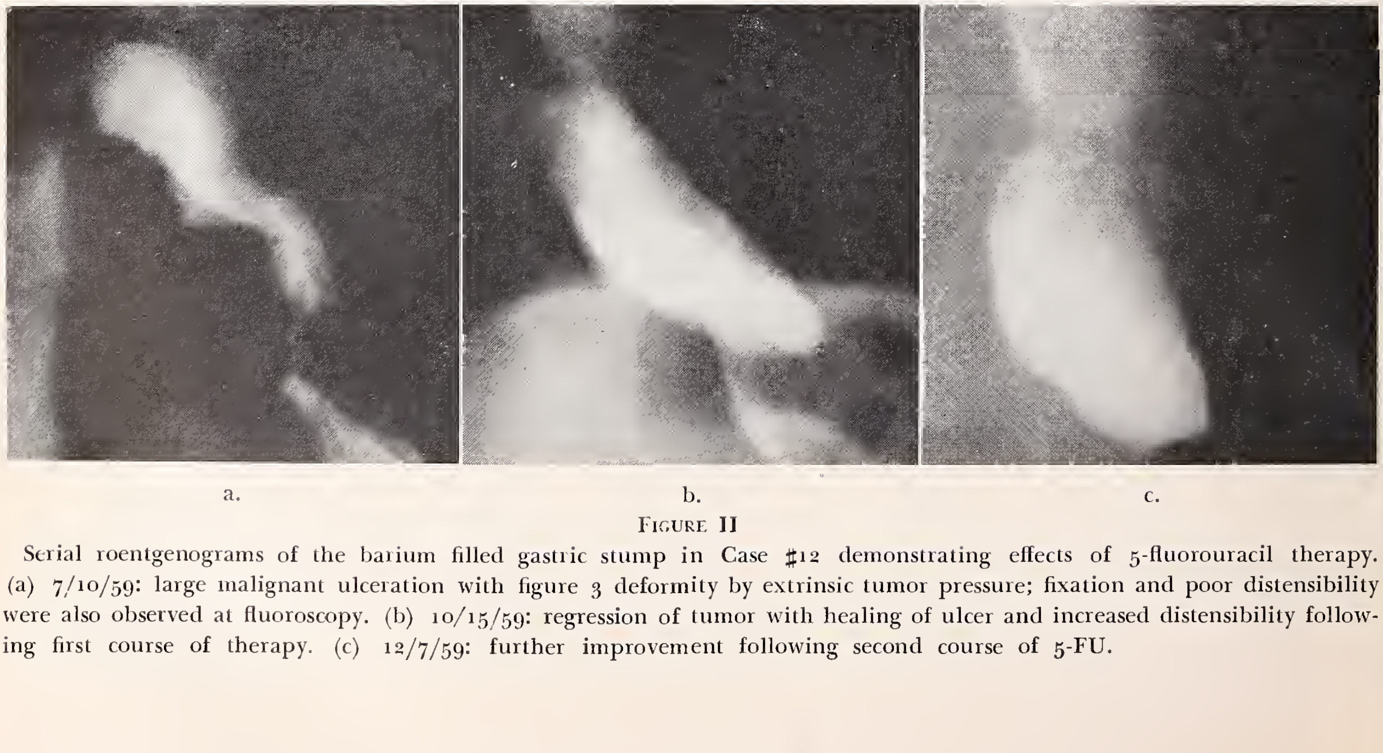
a. b. c.

FIGURE II

Serial roentgenograms of the barium filled gastric stump in Case #12 demonstrating effects of 5-fluorouracil therapy. (a) 7/10/59: large malignant ulceration with figure 3 deformity by extrinsic tumor pressure; fixation and poor distensibility were also observed at fluoroscopy. (b) 10/15/59: regression of tumor with healing of ulcer and increased distensibility following first course of therapy. (c) 12/7/59: further improvement following second course of 5-FU.

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* We are grateful to Dr. Harvey Kaetz for permission to include this case and to Dr. Robert Lowman for the interpretation of the roentgenologic findings.

color and the patient's appetite had improved. The liver was no longer palpable and the epigastric mass was markedly reduced in size. Regression of tumor and healing of the gastric ulcer were documented by x-ray (Figure 2b). Liver function tests returned to normal except for an alkaline phosphatase of 45.6 units. Improvement was maintained for six weeks at which time upper gastrointestinal symptoms recurred and he was started on a second course on 10/26/59. He received 15 mg./kg/day x five on an ambulatory basis. On the 18th day following the initiation of therapy the total leukocyte count was 2,500/mm,[3] but rapid bone marrow recovery ensued and a week later the WBC was normal. At this time progressive improvement of symptoms was reported and x-ray studies (Figure 2c) showed greater pliability with increased filling of the gastric stump. No epigastric mass was palpable and all liver function tests, including the alkaline phosphatase, were normal. Following this course of therapy he has been fully ambulatory and is able to lead a moderately active life, but because of recurrence of upper gastro-intestinal symptoms he is undergoing another course of therapy.

Comment—This man obtained the most striking remission we have seen to date with disappearance of palpable enlargement of the liver and epigastric tumor mass. Return of liver function to normal probably represented relief from neoplastic obstruction of the biliary tree. Objective radiologic evidence of tumor regression was observed (Figure 2). It should be emphasized that clinical improvement persists six months following initiation of therapy.

Complications and Toxic Effects

Present experience with 5-fluorouracil indicates that, in general, doses producing toxic symptoms are necessary to achieve beneficial effects.[6, 7] Major toxic effects of this drug are confined to rapidly proliferating tissues in the body: alimentary tract, bone marrow, hair follicles of the skin and neoplasms (Table I).

In the present series stomatitis was encountered in nine out of 18 therapeutic courses. The early lesions consisted of small areas of hyperemia on the lips and other mucous membranes of mouth with subsequent white, patchy, membrane formation followed by ulceration and necrosis. The patients frequently were aware of dryness of the mouth prior to the onset of the lesions. Whenever stomatitis occurred it was the first manifestation of toxicity and in the nine instances in which it did not develop, only three were followed by clinical improvement. These observations emphasize the importance of this sign as an index to the proper therapeutic level and a careful search for it is routinely made. It has been reported that similar changes developed during 5-FU treatment in the intestinal mucosa of a patient with a colostomy suggesting that this lesion may occur throughout the alimentary tract.[6] Anorexia, nausea, vomiting, diarrhea and dysphagia with retrosternal burning observed in this series and reported by others[6, 7] constitute the clinical manifestations which reflect this type of involvement.

Some degree of bone marrow depression developed in eight patients. In all of these leukopenia was present and in two thrombocytopenia with hemorrhagic manifestations ensued. One of these patients (J. C.) developed severe marrow aplasia with a total leukocyte count of 350/mm³ and is presented as an example of extreme toxicity.

CASE No. 5—J. C. — In 1957 this 67-year-old white woman was found to have a stage II adenocarcinoma of the cervix. She was treated with two local radium applications of 2500 and 3500 roentgens each. This was followed by 2500 r external radiation in Jan., 1958 and in September, 1958, by a pelvic node dissection and local injection of 48 millicuries of radioactive gold. All the microscopic sections were positive for metastatic carcinoma at this time. In December of 1958 she developed painful cutaneous tumors in the lower abdomen, vulvar and perianal regions and on March 9, 1959, delivery of 3000 r of x-ray to this area was completed. After brief improvement, recurrence of the skin lesions attended by much pain and discomfort necessitated readmission to the hospital. On March 25, 1959, she began a five-day course of 5-FU, 15 mg./kg./day. On the 6th day definite stomatitis was present and the patient complained of severe pain in the flanks and lower abdomen. By the tenth day all pain was gone and a dramatic regression in size and redness of the skin lesions was noted. On the following day, however, diarrhea and restrosternal burning with dysphagia suggested widespread gastrointestinal toxicity. The leukocyte count fell to 2,000/mm³ on the eighth day and to 350/mm³ by the 12th day. Persistence of leukopenia as well as thrombocytopenia was accompanied by epistaxis, bloody diarrhea and oral bleeding. On the 14th day she developed a fever, staphylococcus aureus was cultured from her blood, and she expired three days later. Autopsy revealed adenocarcinoma in a few periaortic lymph nodes, diffuse necrotizing pneumonitis, and bone marrow aplasia.

Comment—It is important to note that during the previous year this patient had received a large amount of radiation to the pelvis and with current practice would have been given a reduced dose of 5-FU. It is also worth emphasizing that microscopic evidence of carcinoma in a few pelvic nodes was the only residual of what had been an extensive malignant process.

The second patient (F. L.) who also developed severe leukopenia and thrombocytopenia had normal peripheral blood values by the 25th day but suffered a stormy clinical course and expired after a myocardial infarction three weeks later. It is probable that drug toxicity contributed to her demise. Extensive vertebral metastases at post-mortem examination suggested that bone marrow function was compromised prior to therapy. Both individuals were over 65 years of age.

Alopecia was encountered in two cases (A. S. and F. L.) and all patients, particularly women, should be warned before onset of therapy that this annoying but transient side effect may occur. Hyperpigmentation of the skin was observed in one individual (F. L.), but in the presence of chronic illness and adrenal metastases it is impossible to relate this finding to administration of the drug alone.

Pain at the site of primary or metastatic tumors during the period of injections was noted by four of our patients and has been described by others.[6] In our series this was followed by measurable beneficial effects in three cases and it may well represent acute necrosis of neoplastic tissue.

Sudden death in one of the patients (L. K.) a few hours after the second injection was shown at autopsy to have been the result of a pulmonary embolus probably originating in the pelvic veins. It is felt that this was unrelated to the administration of 5-FU.

Conclusions and Future Prospects

5-Fluorouracil appears to be an antimetabolite that is capable of affecting the growth of a number of solid tumors in human subjects. This property may be related to the ability of this compound to inhibit metabolic conversion of uracil into DNA thymine and RNA uracil and to incorporation of fluorouracil into a "fraudulent" RNA.[10] It should be pointed out, however, that so far no cure has been reported with this agent[11] and that toxic complications often reduce its effectiveness. Nevertheless, when used with care it is of definite clinical value in selected cases. In determining the dosage special caution should be exercised when the following are present: poor nutritional state, recent surgery or therapy with alkylating agents, liver or bone marrow invasion and advanced age. History of previous radiation therapy, particularly to the pelvis, is considered definite indication for a reduced-dosage regime.

Medical therapy of cancer is at present, incapable of replacing accepted methods of treatment such as surgery or radiotherapy. However, in addition to palliative value in advanced neoplasia, 5-FU or related agents may prove worthwhile in combined therapeutic programs. For example, after radical surgery a course with antimetabolites may reduce further the chances of recurrence or metastases by destroying any surviving neoplastic cells. Also, the possibility of mutual potentiation with radiotherapy is another approach that is currently under investigation and shows promising results.[12,13] Finally, the marked tumor regression which is seen in the patients who have reached severe toxicity makes one wonder whether this precarious toxic-therapeutic balance may not be favorably tipped by protecting the vulnerable normal tissues of the host. Several possibilities of this kind are being considered including: autologous bone marrow transplants, regional hypothermia, direct intra-arterial administration of antimetabolite (s) with concomitant systemic protection either by intramuscular injections of the appropriate metabolite (s) [14] or by use of a continuous dialysis apparatus (artificial kidney), and other systems involving extracorporeal circulation.[15] Although the latter have been primarily used for regional perfusion with anti-tumor agents they may be also of value in protecting suitable areas from toxicity (i.e. bone marrow in the extremities).

The beneficial effects of 5-FU in the treatment of solid tumors in selected instances has encouraged clinical investigations with related compounds. Welch and co-workers in the Pharmacology Department at Yale[16,17] have been developing two new uridine analogs which are currently undergoing clinical trials. Although we have observed encouraging initial clinical responses with both of these agents[18,19] limitations in supply have restricted their extensive use for the present.

Summary

The initial clinical experiences with 5-FU at the Yale-New Haven Medical Center in 13 patients with advanced neoplastic disorders are reported. Some degree of clinical improvement occurred in nine individuals and in five of these it was possible to measure objective evidence of regression in tumors accessible to direct examination. Toxic effects encountered included alopecia, stomatitis, gastrointestinal symptoms and bone marrow depression. Certain aspects of the present and future roles of chemotherapy in the treatment of cancer are discussed.

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PRACTICAL PSYCHOTHERAPY—
A Valuable Tool Of All Physicians

FRANKLIN S. DUBOIS, M.D.*
New Canaan

THE most difficult and extensive health problem of all, emotional and mental disturbances, is a challenge to every practicing physician. It is authoritatively estimated that 17,000,000 people in the United States have some type of mental illness[1] and that 10 per cent of public school children should have the benefit of psychiatric help.[2] Furthermore, it is well known that the number of psychiatric patients in hospitals and clinics is increasing rapidly all over the country and that admissions to our state mental hospitals alone have risen 25,000 in the last two years.[3] Obviously, American medicine faces a major question: how to stem this rising tide of emotional sickness. Certainly it cannot be stopped by the fewer than 12,000 members of the American Psychiatric Association. Indeed, it is neither necessary nor desirable that it should be. The major part of psychiatric work in the community can and should be done by the more than 225,000 physicians who are not psychiatrists,[4] by every doctor in every specialty and particularly by general practitioners, internists and pediatricians. Only by the joint efforts of all physicians can the great challenge of mental illness be met successfully, and only then if the best available therapies are employed.

The numerous recent statements as to the efficacy of psychopharmacologic drugs in the treatment of emotional and mental disturbances has tended to create the impression that chemical substances alone are the solution to this vast problem. Unfortunately, this is not the case. While there is no question but that certain of the newer drugs, as well as electroshock and insulin, have served the medical profession well, there is no convincing evidence that they do more than control some of the symptoms of mental disease.[5] This does not mean that such physiological agents should not be used in treatment; they should be, when indicated, but only with the full knowledge that they do not resolve the basic emotional problem that causes the symptoms.[6] The basic emotional problem is almost always anxiety, a distress of mind that usually stems from some type of unharmonious relation among people. Consequently, definitive treatment of emotional and mental disturbances must reduce anxiety by preventing the development of troubled relationships among human beings or, when such relationships have come about, effect their improvement. This can be accomplished only with psychologic procedures. Such procedures constitute psychotherapy, a valuable tool in the physician's armamentarium, a weapon that strikes at the core at mental illness.

Psychotherapy is not a vague and complicated mode of treatment that is difficult to execute. It is the clear and well-understood science and art of both preventing and treating functional nervous disorders. A simple and practical method of psychotherapy which all physicians can use with good results is described in the following paragraphs.

Prophylactic Psychotherapy

Prophylactic psychotherapy consists of those psychologic things which the physician can do to minimize anxiety by preventing the occurrence of attitudes and patterns of behavior that

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. . . Mental and emotional disturbances are America's No. 1 Public Health Problem—

. . . a vast problem that cannot be solved by psychiatrists alone

interfere with satisfactory and rewarding human relations.

First of all, he can ***help preserve the family.*** Bowlby[7] has demonstrated that for good mental health, "the infant and young child should experience a warm, intimate continuous relationship with his mother (or permanent mother substitute)." When the child does not have this relationship he is said to suffer from "maternal deprivation." Bowlby's authoritative study, following the earlier works of Levy,[8] Lowrey,[9] and Goldfarb,[10] documents the significance of "maternal deprivation" and concludes that such an emotionally barren environment early in life is a highly significant factor in the production of antisocial or psychopathic behavior in later years. Likewise, recent studies show that those individuals who experience parental deprivation in childhood are far more apt to develop psychoneurosis,[11,12] schizophrenia[13] and other psychoses[14,15,16] in adult life. As a practical measure in preventing psychiatric illness the physician should make every effort to keep families with young children intact. Parents must be present in a child's life for his healthful psychological development. Even a so-called "bad home" is better for emotional growth than an institution or a broken home during a child's early years. Homes must be preserved if mental illness is to be avoided.

Secondly, a physician can ***foster child guidance*** in his efforts to prevent unharmonious human relationships. Of all the things that parents can do to disturb a child's security, adopting the attitudes of *inconsistency* and *rejection* are most significant. It is the physician's responsibility to guide parents toward the opposite of these, consistency and acceptance. Inconsistency can take the form of constantly changing attitudes of the father or the mother or differences of opinion between parents. In either case the child does not know where he stands; parental standards and behavior are paradoxical and as a result, his position is insecure. "When one parent defaults, so that the affections of the other are disturbed and dissatisfied, the resulting confusion is seldom without effect on the child."[17] It is in such homes that neurotic problems most frequently arise. The physician should insist that parents present to the child uniform affections and decisions, regardless of their personal differences or attitudes toward each other. Similarly, the physician should be definite in his advice that parents not reject their child, but be understanding, warm and sympathetic, irrespective of their child's behavior.[18] The child should not be accepted and loved only when he is "good" and rejected when he is "bad." The physician should be firm in his opinion that a child has a right to live always in a friendly and encouraging emotional climate. It is by such means that he is protected against mental illness in adult life.

Thirdly, a physician can ***teach helpful points of view*** as a means of making it easier for people to get along with one another. The most important attitude to be cultivated is *tolerance*.[19] Tolerance is not just a virtue; it is a direct channel to good emotional health. It is that quality which enables one to accept other people as they are and which at the same time makes it easier for others to accept him. The tolerant person follows a path that leads to the warm and reassuring stream of smooth interpersonal relationships; hence, he need have little concern for his mental health. Also, the physician should emphasize to adults the importance of *understanding themselves* and the effect of their personalities on others if undue stress and strain in living are to be avoided. The failure to understand one's own motivations and the effect of one's words and actions on the people around him will convert the ordinary stress of living into tension that can produce a host of nervous symptoms and even make an individual more vulnerable to organic illness.[20,21] The physician should kindly and surely lead people to some understanding of themselves. It is well established that the better a man knows himself, the better are his relations with others and the stronger is his emotional health.

Remedial Psychotherapy

Remedial psychotherapy includes those psychologic things which physicians can do to influence favorably a sick person's emotional and mental life. Good remedial psychotherapy can be practiced by any physician who will take the time to listen, who will develop an attitude of sympathetic understanding and who will try to cultivate good judgment. These are the sine qua non for helping upset people. In using these tools the physician should remember that successful psychotherapy rests on two bases, the personal element and the technical method.

The personal element of psychotherapy consists of the emotional reactions and counter-reactions between the physician and the patient. It is decidedly of more importance than any technical method. Without a good physician-patient relationship the goals of psychotherapy cannot be achieved, and the goals are not merely the elimination of the patient's symptoms, but his attainment of a more meaningful and purposeful life. It is when the patient first enters the physician's office that the personal element of psychotherapy begins to function. The taking of a *detailed history* of the patient's problem, his environmental situation, and his earlier life start the establishment of a helpful and healthful relationship which grows stronger as the physician goes on to the *complete physical and neurological examination.* As a next and important step in fostering good rapport the physician *surveys the complete problem* with the patient and then, with understanding and skill, leads him in a frank *discussion* of his hopes, fears, feelings and thoughts about the past, the present, and the future. In all such discussions the physician must be alert to his own attitudes and feelings. He must show warmth and genuine interest if a good and useful friendship is to be formed. It is only on the basis of solid friendship that a technical method of psychotherapy can be employed beneficially.

All technical methods of psychotherapy are basically re-educative. Hypnosis relies on suggestion; psychoanalysis principally stresses free association of thoughts and dream interpretation; narcosynthesis employs drugs and abreaction; and direct re-education uses understanding, retraining and reconditioning. The last method will best serve the needs of most physicians.

Since the turn of the century various aspects of re-education have been discussed by various authors but most recently and most completely by Terhune.[22, 23] It is a directive and not a permissive type of therapy. The physician remains in control as in all other medical treatment and does not necessarily allow the patient to do as he pleases. Consequently, as a *first* step the patient's daily life is organized in a systematic manner that affords work, rest, exercise and play in reasonable balance. In this way a specific written guide for living within the boundaries of his physical, emotional and intellectual capacities is offered. *Second,* the patient is encouraged to talk about his difficulties. The amount, depth and rate of ventilation of emotionally charged productions is carefully regulated, because ventilation is only worth while when it relieves tension and leads to understanding. *Third,* the physician tries to decrease or eliminate stressful situations in the patient's work and home. This may require that he confer with the employer or the spouse in order to readjust the environment advantageously. When such conferences are necessary, they should only be held with the patient's full knowledge and consent. *Fourth,* a part of each interview is devoted to giving simple explanations of the functions of the nervous system and its role in the production of physical symptoms such as flushing, diarrhea, diaphoresis, tachycardia, etc. Similarly, anxiety is defined. The physician tells how anxiety originates and describes how it disturbs physical, emotional and mental functions. Such knowledge, combined with reassurance about his health, makes the patient more comfortable and assured. *Fifth,* an effort is made to detect the patient's faulty attitudes and patterns of behavior and to replace them with healthy ones. Here caution must be used, since it is to be remembered that insight is only of value if it can be employed constructively. *Sixth,* the patient's physical, intellectual and emotional assets are appraised and activated in a practical and rewarding way. As a result, confidence is strengthened in spite of inherent limitations that may be present. *Seventh,* the patient is guided into new interests in order that he may think less about himself and more about other people and other things. Thus, he becomes more objective in his points of view. *Eighth,* helpful suggestion, praise and encouragement are given repeatedly, both directly and indirectly. This affords essensupport as the patient works toward his goal of independent self-determination. *Ninth,* by the example of his own attitudes and actions, the physician demonstrates that a person can be well adjusted and emotionally stable. A part of this strength is transmitted to the patient by identification; accordingly, he feels more adequate to deal with his own problems. *Lastly,* the patient is encouraged to redefine his spiritual values and to evolve a philosophy of his own. Like every philosophy that is worth while, this must include subordination of self in service to others. Only then can reasonable contentment and inner peace be achieved.

When the techniques of re-education are employed skillfully and well, the patient gains a more accurate self-appraisal, develops an improved tolerance to emotional stress, and more easily reconciles his handicapping conflicts. In brief, he is a more comfortable and effective citizen.

Summary

Mental and emotional disturbances are America's number one public health problem, a vast problem that cannot be solved by psychiatrists alone. Every physician in every specialty must help in its solution. This can be done if physicians will employ psychologic as well as physiologic methods of treatment. Physiologic methods often relieve certain symptoms of mental disease but psychologic methods attack the core of the illness—anxiety—a type of distress usually incident to disturbed interpersonal relationships. Psychologic methods constitute psychotherapy which can be either prophylactic or remedial. Prophylactic psychotherapy includes helping to preserve the family, teaching the basic principles of child guidance and fostering wholesome points of view in the adult. Remedial psychotherapy consists of establishing a strong physician-patient relationship and of employing some method of re-education. Direct re-education, of the type described, best serves the needs of most physicians. It replaces unhealthy attitudes with healthy ones, activates favorable potentialities and strengthens character. As a result, the patient gets along better with other people, is less anxious and enjoys better mental health.

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CARCINOMA OF THE TONGUE

A REVIEW OF 49 CASES

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CANCER about the head and neck is invested with an aura of pessimism, a composite of the destructive nature of the disease with its functional and cosmetic deformity, the fear of further deformity produced by treatment, and the high mortality rate from the disease despite treatment. One such type of lesion is carcinoma of the tongue.

Since 1941 the Bridgeport Hospital has maintained a Tumor Registry which has made follow-up of these cases feasible. Treatment of carcinoma of the tongue until recently has been largely by irradiation. With reviving interest in the use of surgical treatment for this lesion it was felt advisable to establish a base-line for the type of material encountered and the results that have been achieved. The period covered is from 1941 to 1956.

Analysis of Cases

During this period, 49 cases of carcinoma of the tongue were seen. Eight cases of carcinoma of the floor of the mouth were encountered but these have ben excluded from the study. Thirty-nine patients (80 per cent) were male and ten female. This is consistent with the general ratio of male preponderance for this lesion. Their ages ranged from 40 to 90, with 32 (65 per cent) between the ages of 60 and 79.

Location

Because of the frequency of extension of the lesion, with involvement of more than one area of the tongue or extension into adjoining tissues such as the floor of the mouth, gingiva, tonsillar pillars, or hypopharynx, it is at times difficult to determine the site of origin. However an attempt was made to localize the primary site, recognizing these limitations.

Four (eight per cent) were located in the anterior third of the tongue. Nineteen (39 per cent) in the middle third, and 24 (49 per cent) in the posterior third. Two (four per cent) were too extensive to permit determination of the site of origin.

Predisposing Factors

Factors considered to predispose to cancer of the tongue are the use of tobacco, alcoholism, cirrhosis, syphilis, and chronic intra-oral irritation.

Twelve (24 per cent) of our patients were known to have consumed tobacco in significant quantities. Alcoholism was reported in nine (18 per cent) and cirrhosis in two (four per cent). In only one of our cases was lues known to be present. Trieger et al found syphilis to be present in 20 (18.5 per cent) of their 108 cases. Interestingly, 19 of these 20 patients with syphilis had their lesions in the anterior two-thirds of the tongue.

Pathology

A pathological diagnosis based on microscopic examination was obtained in 45 of the 49 cases.

In 42 the diagnosis was epidermoid carcinoma. Eight were classified by the pathologist as Grade I, nine were classified as Grade II, and three as Grade III. In 23 the Grade of the disease was not specified.

There were two cases of transitional cell carcinoma, both of the base of the tongue. One was classed as Grade III and the second was not classified.

There was one case of adenocarcinoma of salivary gland origin, located at the base of the tongue. This was classed as Grade II.

There were no cases graded pathologically as IV.

Size

The size of the lesion was given in 35 cases. It is of interest that 17, or just about half, were 2.0 centimeters or less in diameter. There were three lesions under 3.0 centimeters, two under 4.0 centimeters, and two under 5.0 centimeters. Eleven, or almost one-third, were "extensive."

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Stage

The fallibility of clinical examination in the determination of metastatic disease in cervical lymph nodes is well known. In Martin's group of 169 patients with intra-oral carcinoma who were felt to be clinically free of cervical node metastases, 25 per cent had microscopic nodal involvement in the radical neck dissection specimen. Of those with carcinoma of the tongue without clinical adenopathy, 60 per cent had positive nodes.[9] Kremen[4] found that in his 21 cases of carcinoma of the tongue in whom the cervical nodes were felt to be free of disease, the nodes were involved in nine (43 per cent). Conversely, of eleven in whom the nodes were enlarged, they were not involved in four (36 per cent).

Despite the demonstrated unreliability of clinical estimation of spread of the disease to the neck glands, it is felt that a complete clinical classification is of value in helping to round out the picture.

All of the 49 patients were classified as to stage. Sixteen (33 per cent) had a lesion confined to the tongue, Stage I. Fifteen (31 per cent) had local disease plus palpable cervical lymph nodes, Stage II. Eighteen (37 per cent) had extensive disease, Stage III. In 11 of the latter, the extensive disease was local, Stage IIIA. In four the regional lymph nodes were large and fixed, Stage IIIB. In three, the primary lesion and the regional involvement were extensive, Stage IIIA and B. There were no patients who had distant metastases when first seen (Stage IV).

	NO TREATMENT	RADIATION					SURGERY				
	DIED WITH DISEASE	DIED WITH DISEASE	DIED WITHOUT DISEASE	ALIVE WITH DISEASE	ALIVE WITHOUT DISEASE	UNTRACED	DIED WITH DISEASE	DIED WITHOUT DISEASE	ALIVE WITH DISEASE	ALIVE WITHOUT DISEASE	UNTRACED
Stage I											
1 year	1	1	1			1					
2 years		4									
3 years		3								1	
4 years					1						
5 years										1	
6 years											
7 years		1									
8 years		1									
	1	10	1	0	1	1	0	0	0	2	0
Stage II											
1 year	1			1		1	1	1			
2 years		5		1			2				
3 years											
4 years											
5 years											
6 years											
7 years											
8 years					1						
	1	5	0	2	1	1	3	1	0	0	0
Stage III											
1 year	4	5									
2 years		2		1							
3 years		1			1						
4 years			1								
5 years											
6 years		1	1							1*	
7 years											
8 years											
	4	9	2	1	1	0	0	0	0	1	0
Total of all Stages: I, II, and III	6	24	3	3	3	2	3	1	0	3	0

One case—Stage II—five year cure following radiation to primary lesion and radical neck dissection.

* Recurrence of 2d intra-oral primary.

Treatment

The treatment in this series was primarily by irradiation; a few patients were treated surgically. Local excision was performed at this institution. In the period covered by this paper, however, those patients who were treated by radical surgery were treated elsewhere.

There were 35 patients treated by some form of irradiation alone. Interstitial implantation was the sole modality of therapy in six patients. In some cases radon gold seeds of 1 mc. intensity were implanted. In others, radium needles were inserted; in these, the interstitial therapy was of short intensive type using needles of 10 mg. strength. Dosages, of course, varied with the size of the lesion, and were administered over short periods of time of up to nine hours.

In 22 patients, external radiation alone was employed. In seven patients, interstitial therapy was combined with external x-radiation. The x-radiation employed was of 200 to 250 K.V. and in most cases two lateral opposing ports were used, each port receiving 2400 to 3000 r (air dose) in three to four weeks. Tumor doses are estimated at between 3000 to 4500 r.

One patient was treated by a local excision at this institution and six were treated by radical surgery elsewhere.

Six patients received no treatment, either because of their terminal status, the far advanced nature of the disease, or their refusal to accept therapy.

Results

Of the 49 cases, five are indeterminate. Only one was untraced; the other four died of some cause other than their tongue neoplasm within the first year after treatment. They were apparently free of tongue cancer at the time of death.

Of the six patients who received no treatment, all expired within one year.

There were eleven who survived three or more years. Their histories are filled with paradox and warrant brief analysis.

The first, a 78 year old male (J.D.) was given only palliative treatment of 2700 roentgens to each of two opposing ports for a large lesion of the base of the tongue and bilateral cervical metastases. He survived for six years and finally expired with massive cervical metastases partially obstructing his esophagus.

An 86 year old male (C.N.) who received palliative radiation of 2400 roentgens to each of two ports for a 3.0 cm. lesion of the posterior tongue, expired six years later with pulmonary metastases. Six months before death he showed no evidence of local or cervical disease.

A 62 year old male (A.S.) with an extensive lesion of the lateral aspect of the tongue extending onto the floor of the mouth was treated with x-radiation (1632 r through an open mouth port and 2700 r in air directed beneath the jaw). He was free of his tongue carcinoma but died in his sixth year after treatment from carcinoma of the stomach with hemorrhage.

A 57 year old male (A.D.M.) who had enlarged cervical nodes was treated with 1693 m.c. hours of radon seed implants for a lesion of the base of the tongue. He was free of disease eight years later. We can only presume that the lymphatic involvement was inflammatory.

A 55 year old male (G.M.) was treated elsewhere by an extensive local resection of a carcinoma of the posterior third of the tongue extending onto the tonsillar pillar in 1951. He also had leukoplakia of the buccal mucous membrane, which was cauterized. Two years later he developed a second primary lesion of his soft palate which was treated by x-radiation. This second lesion recurred in 1956 and was treated by resection of the hard and soft palate. One year later, the palatal lesion again recurred. This man survived six years, apparently free of the original tongue lesion and at no time gave evidence of cervical disease. All his treatment was administered elsewhere.

A 54 year old male cirrhotic (D.M.) was treated by wedge excision of an 0.5 cm. lesion of the lateral aspect of the tongue with no evidence of recurrence after five years.

A 75 year old female (E.W.) received 4800 r and 560 m.c. hours of radon seed implants for a 1.0 cm. lesion of the anterior third of the tongue. She had no evidence of disease at five years but in her sixth year developed a small local recurrence which was treated by excision. A large re-currence with mandibular involvement developed one year later and the patient expired in the seventh year.

A 79 year old male (H.B.) with an extensive poorly differentiated lesion of the right side of the base of the tongue extending onto the tonsillar pillars and soft palate and with a large mass of cervical glands received 2400 and 2350 roentgens to the local lesion. He is alive and free of disease four years following treatment. The cervical nodes have completely regressed. Again we presume that the cervical adenopathy was inflammatory.

A 76 year old male (F.K.) with a "large" local lesion was treated with 4800 r (air). He expired in his fourth year apparently free of disease.

A 72 year old female (A.R.) with a 1.2 cm. lesion of the lateral aspect of the tongue is alive and free of disease three years following radium needle implantation of 1420 m.g. hours.

A 63 year old female (E.S.) with a "small" lesion of the base of the tongue was treated with implantation of radon gold seeds at the Bridgeport Hospital. A radical neck dissection was done elsewhere. She was free of disease five years later.

The remarkable facet of these cases is that five of them, considered unsalvageable and treated with radiation more or less for palliation, are apparent cures for four, four, six, six, and eight years respectively. Two more achieved long term palliation, surviving six years, one succumbing to cervical and one to pulmonary metastases.

An analysis of the results of therapy based on the stage of the disease when the patient was initially seen has been disturbing to certain of our established concepts.

In Stage I, those with small to moderate sized lesions confined to the tongue and with no evidence of cervical metastasis, there were 16 patients. Three of these were indeterminate and are excluded. Eleven patients were treated by radiation; eight of these died with their disease within three years. One patient died with pulmonary metastases six years after treatment, with no evidence of local recurrence six months prior to death. One developed locally recurrent disease in her sixth year. One is an apparent cure. Of these 11 patients with Stage I lesions treated by radiation, a satisfactory result was achieved in one.

There were two patients in Stage I who were treated surgically. One is a five year cure after a wedge excision and one a three year cure after a partial glossectomy done elsewhere.

There were fifteen patients in Stage II, i.e. with moderate sized primary lesions and palpable regional lymphadenopathy.

One patient who received no treatment expired within one year.

Ten received radiation therapy. Two were lost to follow-up. Three died of their disease within two years and three had recurrence of their disease with this period of time. There were two apparent cures, one for eight years following radiation and one for five years after radium implantation of the local lesion combined with radical neck dissection.

Four patients in Stage II were treated with surgery alone. One died of congestive heart failure, apparently free of disease, within one year. One died of gastrointestinal hemorrhage secondary to distant metastases within one year. The other two died with disease in their second year.

There were eighteen patients in Stage III when initially seen and all have been followed. Some of these patients with extensive and apparently hopeless carcinoma did surprisingly well.

Of the 12 patients in Stage IIIA (extensive local disease but no apparent cervical nodal or distant metastases), four received no treatment and expired within one year. Of those treated by x-radiation two were apparently cured, dying of some other cause at four and six years respectively. Four died within one year despite treatment. One expired in his third year with pulmonary metastases. One patient treated surgically by a resection of the posterior tongue, tonsil and tonsillar pillar was apparently cured of his tongue lesion at six years but had an uncontrollable second primary carcinoma of the palate.

There was one patient in Stage IIIB (extensive cervical metastases), when first seen. He achieved palliation for six years, when he expired with recurrent cervical disease.

There were five patients with combined Stage IIIA and IIIB disease. Three expired within two years. One had his disease controlled at the time of his two year follow-up and one is apparently free of disease after three years.

Thus of the 18 patients with extensive disease, four achieved cures for six, four, three and two years and two achieved palliation for three and six years respectively. One had a six year cure after surgical extirpation.

Discussion

Although the series is small, certain features are striking. Perhaps the most noteworthy is the highly gratifying response to radiation in terms of cure and long term palliation of large and even extensive lesions, even though these may be associated with what appear to be cervical metastases. Lesions of this type occurring in elderly individuals seem particularly amenable to irradiation, even when it is administered in what is considered to be less than cancericidal dosage. We have four patients in this category with cures of four to eight years, and two more who had satisfactory palliation for three and six years. Whether lesions of this magnitude are actually highly radiosensitive or in elderly individuals tend to run a more benign and indolent course, or combine both factors is difficult to determine. However, the significant salvage in these patients suggests that all patients, regardless of the magnitude of the lesion deserve an attempt at therapy.

We have one patient treated surgically for an extensive carcinoma who represents a six year cure, however he has an uncontrolled second intra-oral primary.

Though the results of radiation in the treatment of extensive lesions were relatively gratifying, the results in the treatment of the small lesion were disappointing. Of the 11 determinate patients with small to moderate sized lesions and no clinical evidence of cervical metastases, cure was achieved in only one. Ten died of their disease. It is entirely possible that our radiation dosage in some of these patients was inadequate by present standards. The two patients treated surgically for lesions of this type are alive and free of disease three and five years respectively.

The results of treatment of patients with moderate sized lesions and regional lymph node enlargements (Stage II) was also disappointing. Of the eight determinate patients treated by radiation, six died or had recurrence of their disease within two years. There were two apparent cures, one for eight years following radium implantation and one for five years after radium implantation of the local lesion combined with radical neck dissection. Our three determinate surgically treated patients in this group also did poorly.

Although Kremen,[4] in reporting his series of surgically treated patients, states that all clinical cures for two years remained free of disease subsequently, we have had three patients, two of whom developed recurrences and one pulmonary metastases in their sixth year. All three had been treated by radiation.

A survey of the literature reveals a wide divergence of therapeutic results. The reported series treated by radiation are quite sizeable. Rahausen and Sayago[6] reported 113 cases. Their plan of treatment consisted of interstitial radium implantation for lesions of the anterior third of the tongue and external roentgen irradiation for lesions of the posterior third. In the presence of lymph node enlargement, radical neck dissection was performed; metastases were present in 75.2 per cent of these. Of the 61 patients treated and traced, five were alive at five years, giving them a five year cure rate of 8.1 per cent. If their cure rate is based on the entire series of 113 cases, it is 4.7 per cent. On the basis of their experience they feel that surgery is the preferable mode of therapy in certain situations. They recommend surgery for lesions of the anterior third of the tongue measuring 2.0 cm. or less. They feel that in cases of radiation failure, surgery is preferable to a second course of radiation. Surgery is also indicated when there is invasion of the gingiva or bony structure of the mandible.

Breed[2] reported 81 cases followed of a series of one hundred. His mode of therapy was radon implantation of the primary lesion. The lymph node area was treated with 5000 gamma r with a radon applicator. If the nodes persisted, block dissection was performed. In 44 patients the lesion was under 3.0 cm. in diameter, in 48 patients under 5.0 cm., and in eight patients, over 5.0 cm. In 30 per cent node enlargement did not occur; in 40 per cent the nodes were enlarged on admission and in 26 per cent nodes became evident during or after treatment. His five year cure rate was 30.9 per cent of the determinate cases (25 per cent of the entire series).

Russell[7] reports 673 patients treated by radium implantation, with neck dissection if the nodes were enlarged. There were 560 male and 113 female patients. The gross ten year survival was 13 per cent for the men and 31 per cent for the women, for a combined ten year survival of 16 per cent. If the figures are age corrected, the ten year survival is 26 per cent.

Ash and Miller[1] reported a series of 394 cases treated by implantation and external radiation. Fifty-five per cent had palpable nodes initially or developed them subsequently. Sixty-one of the 394 patients had lesions less than 1.5 cm. in diameter. The gross five year survival for these small lesions was 54.1 per cent; the net five year survival was 64.7 per cent. There were 136 patients with lesions less than 3.0 cm.; the gross five year survival rate in this group was 37.4 per cent and the net survival rate 47.7 per cent. Of the 136 patients with lesions involving up to one-half the tongue or extending into adjacent structures, the gross five year survival rate was 15.9 per cent and the net survival 17.6 per cent. Of the 61 patients with massive involvement including more than half the tongue, the gross survival was 2.3 and the net 3.3 per cent. The gross five year survival rate for the entire series was 27.2 per cent and the net survival rate was 31.7 per cent.

Ninety-eight consecutive cases of carcinoma of the tongue with one hundred per cent follow-up were reported by Elkins.[3] All were treated with radiation consisting of radium implantation, external and intra-oral irradiation alone or in combination. Three had surgical treatment of the neck glands only. Metastases were present in 36.7 per cent on admission and developed in 22.4 per cent later. Ten died of some other cause, apparently free of their disease. Of the 88 determinate cases, there were 22 five year cures for a cure rate of 25 per cent according to the Memorial Hospital method. There were two additional patients who survived, one over five years with disease and one who developed a new lesion after six years.

The surgically treated series in general are smaller. Kremen, at the University of Minnesota,[4] reported 32 patients whom he considered operable. Posterior third lesions, because of their radiosensitivity, were not treated surgically unless they had extended to this area from the middle third. Ten of his patients were followed over five years. Seven of these, or 70 per cent, were alive and free of disease. Five of the five with negative nodes and two of the five with positive nodes were alive.

Lyall and Schetlin[5] reported 76 cases from the Tumor Service of the University Hospital in New York. Seven were inoperable and were treated with irradiation. Sixty-six were treated surgically, with 40 having lymphadenectomy. The five year cures numbered 29 for an overall cure rate of 38.1 per cent.

Slaughter[8] performed combined procedures on the tongue and neck, frequently including the mandible, on 120 patients. Many were far advanced or represented post-radiation recurrence. His five year survival rate was 32 per cent.

Martin[9] reported 1186 determinate cases of a series of 1394 seen from 1939 to 1952. Early in his series the principal method of treatment was irradiation although even then cervical metastases were largely treated surgically. Later surgical extirpation was employed. There were 395 five year cures, a rate of 33.3 per cent.

Conclusions

In selecting a mode of therapy for a disease as complex as carcinoma of the tongue one must analyze very closely survival statistics of the various modalities. The factor of selection of cases whether consciously by the treating physician or by the distribution of case material as it falls to various clinics must be weighed. The five year surgical cure rate of 38.1 per cent achieved by Lyall and Schetlin which is based on all cases seen is heartening but as in most surgical series must be viewed in the perspective that it is a relatively small group of 76 cases. Slaughter, with his five year survival of 32 per cent of a series of 120 surgically treated patients, many of whom had far advanced disease or recurrence following radiation, again offers an improved outlook.

A close analysis of our own small series suggests that the selection of the appropriate method of therapy for the individual patient will improve long term results. The results of irradiation in this series leave room for improvement, only six of 35 patients achieving an apparent cure (17 per cent). Those patients with relatively small lesions have proven most disappointing, one of 11 of these achieving apparent cure; in this same category, two patients treated surgically are alive and free of disease. Our experience suggests, as does that of Rahausen and Sayago,[6] that small lesions of the anterior two-thirds of the tongue should be treated surgically.

Irradiation did, however, achieve unexpectedly gratifying results in some patients with extensive lesions. Of the 11 long term survivors, five were in this group, four achieving cures and one long-term palliation.

Although we have certain convictions about the place of radical neck dissection in the treatment of carcinoma of the tongue, this series brings no additional information to the subject; accordingly it is not discussed at length. Suffice it to say that it is our opinion that in the presence of a carcinoma of the tongue with palpable cervical lymph nodes, a cervical lymphadenectomy should be made an integral part of the treatment. Because of the high rate of lymph node involvement in the absence of clinical enlargement, we would also recommend concomitant cervical lymphadenectomy for any lesion of 2.0 cm. or larger.

Our recommendations for therapy would therefore be:

1. Small to moderate sized lesions of the anterior two-thirds of the tongue in the absence of enlarged cervical lymph nodes should be subjected to surgical extirpation. However, the authors do not feel that irradiation should be condemned as a method of therapy on the basis of this series. Irradiation dosage in our institution has been increased in recent years. It is still too early to evaluate the results, but we anticipate that they will show an improvement over the period covered in this paper.
2. Small to moderate sized lesions of the posterior third should be subjected to irradiation.
3. Small to moderate sized lesions in the presence of enlarged cervical lymph nodes should be subjected to surgical extirpation with concomitant radical neck dissection. Lesions over 2.0 cm. in diameter should be treated with concomitant lymphadenectomy even without palpable nodes.
4. Extensive lesions, beyond the limit of surgical extirpation, should be treated by irradiation.
5. Lesions with large, fixed cervical glands should be treated by radiation therapy.
6. No patient should be denied an attempt at radiation therapy, for an apparently hopeless lesion may permit of long term cure or palliation.

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UNSOLVED PROBLEMS In Disorders Of The GASTROINTESTINAL SYSTEM

THE BILIARY TRACT AND PANCREAS

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The Biliary Tract

Numerous unanswered problems in this field are a constant stimulus to clinicians and basic science researchers. A presentation consisting only of multiple controversial issues would be of little interest to the reader without a partial discussion of the newer or little known advances already at our disposal.

Gallstones

While knowledge of gallstones has been evolving since 1420, much is unknown about the physicochemical forces in bile responsible for the intriguing phenomenon of gallstone formation.

While being common in humans (most estimate 10 per cent), they occur in many animals, some of which do not possess gallbladders. Cholesterol is a common constituent of gallstones only in the human being.

Formation: Cholesterol is held in solution in the bile by phospholipids and bile salts in a specific ratio. If the usual 20 to 1 ratio is reduced to 13 to 1 as in inflammation and solute absorption, cholesterol crystallizes out.

Cholesterol stones are said to arise in gallbladders free from evidence of disease, but gallstone formation seems intimately correlated with metabolic changes, stasis and infection. The latter is most closely associated with formation of the cholesterol-bilirubin-calcium mixed or multifaceted stone. The nucleus is made of crystals, pigment or organic matter such as desquamated epithelium, bacteria or a drop of liquid. Kleeberg[1] has devised in vitro gallstone systems using gelatin gel, potassium dichromate and sodium chloride which are seeded with crystals of silver nitrate. The shape of the nucleus often governs the form achieved in these colloidal chemical systems—controlled seedings producing the typical polyhedral shapes of gallstones.

Newer chromatographic analyses[2] indicate that there is a significant difference between the mucoprotein concentration of normal gallbladder bile and that associated with cholelithiasis. Hexosamine concentration as well as total hexose concentration in the stone-group bile were approximately one-third lower than normal bile. No significant amounts of mucoproteins were found in gallstones. Whether the low mucoprotein concentration contributes to or results from cholelithiasis has not been established. Electrophoretic studies of bile[3] found a decreased lipoprotein complex in diseased gallbladders which migrate abnormally and may contribute to the instability of bile.

The role of stasis in the formation of stones is receiving more interest. In the presence of complete or severe obstruction of the cystic duct, calcium carbonate may be precipitated in the gallbladder fluid (forming the Kalmichgalle or milk of calcium bile). Inducing partial obstruction of any part of the extrahepatic biliary tree in animals will result in formation of bilirubin or bilirubin-cholesterol stones in the gallbladder.[4]

Extensive bacteriologic studies have been done[5] and yield positive cultures of the gallbladder in 63.4 per cent. Bacteria, especially E. Coli are found more frequently in the gallbladder wall than in the fluid bile. There is no conclusive proof as to the primary or secondary significance of the bacteria. Bockus found a direct correlation with the functioning of the gallbladder, sterile cultures being present with a group of normally functioning gallbladders. There is much experimental evidence that it is most difficult to infect the bile through the duct system and cholecystitis can be produced by factors other than infection. The question of infection causing cholecystitis and this in turn calculi, or gallstones injuring the mucosa and then secondary infection remains unanswered.

Pregnancy may offer clues as to etiology in that the incidence of gallstones in women with offspring is much greater than those childless. In 40 per cent of one series[6] the onset of symptoms related to pregnancy. Cholecystography often fails to visualize the gallbladder in pregnancy. A distended tense gallbladder is a very common finding at Cesarian section and analysis shows an increase in bile cholesterol and a very low bile salt concentration. It is well known that concomittantly the blood cholesterol rises markedly in the third trimester of pregnancy. Many discount this hypercholesterolemia as important since other disease states with more marked hypercholesterolemia such as myxedema, nephrosis, diabetes and primary biliary cirrhosis are not associated with an increased incidence of gallstones. The mechanism of cholesterosis (strawberry gallbladder), pigment stones in congenital hemolytic jaundice and sicklemia are inferentially of metabolic origin. Obviously, cholelithopety (proneness to gallstone formation) is a complex state with infection, stasis and metabolic disturbances singly or in various combinations operating according to physico-chemical forces not yet fully understood. Genetic factors are rarely explored.[7] Dietary factors may someday influence the prevention of calculi since more bile acids (of the dihydroxycholanic type) are already known to be excreted in diets free from fat or high in unsaturated fats as in corn oil. Recent work has demonstrated that supplementation of dietary choline, an essential part of the biliary phospholipids, may increase the phospholipids excretion in bile and thus favorably prevent future formation of calculi.[8] Reduction in the viscosity and sediment in bile by newer hydrocholeretic abstergents such as florantyrone (Zanchol®) may also influence our heretofore powerless ability to prevent gallstone formation.

Symptoms and Surgical Implications

Another enigma of the biliary tract relates to the "silent gallstone" and the question of cholecystectomy in the asymptomatic patient with biliary calculi. A recent excellent study of active male executives[9] revealed 14.6 per cent had biliary abnormalities. Furthermore 70 per cent of the patients with cholelithiasis had no abdominal symptoms and two-thirds of the 30 per cent with symptoms had the unreliable symptoms of dyspepsia and epigastric pain. Evidence from the postcholecystectomy and control groups is that many symptoms are not related to the stones.

Cholecystectomy in the absence of true biliary colic or jaundice can hardly be expected to relieve vague dyspepsia irrespective of the cholecystogram.

Long term studies[10] showed that the patients with silent gallstones had a 50 per cent chance of symptoms developing and a 20 per cent chance of colic developing in 10-20 years. The risk of surgical treatment will rise from 0.5 per cent to 3.0 per cent mortality if operation is delayed. While some will say operation may never be required, others stress that carcinoma of the gallbladder occurs 50 times more frequently in patients with cholelithiasis than in hospital admissions as a whole.[11]

The Heart and Hepatobiliary Diseases

The ambiguous symptomatology accounts for much confusion in diagnosis. In addition, coexistent gallbladder disease may intensify cardiac disease. Interference with normal biliary dynamics may reduce myocardial flow as with common duct distention, mediated by the vagi.[12] One report[13] has warned that cholecystography may be hazardous for patients with coronary artery disease.

There seems to be no significant difference in the incidence of coronary occlusion in persons with and without cholesterosis.[14]

The timing of operation in the patient with and without heart disease remains controversial.

Finally the continuance or recurrence of symptoms after cholecystectomy, the so-called postcholecystectomy syndrome, remains an unsolved problem in many cases. Many factors are implicated including inadequate surgery ("cystic duct remnant"), errors in original diagnosis, operative trauma, residual stones, residual liver disorders and psychogenic factors.

There is little appreciation that for 10-20 days postoperatively, the synthesis and conjugation of bile acids are delayed after total biliary obstruction.[15] Conjugation of the bile acids with glycine and taurine do not lag far behind the recovery of synthesis of the steroid nucleus of the bile acids. The implication for bile replacement by oral administration of dessicated bile during the postoperative state is obvious. Similar future metabolic studies may be productive of knowledge relating to the dissolution of calculi similar to the use of ether-chloroform[16] via T-tube.

The effect of cholecystectomy is felt by many to be inconstant, incomplete and unpredicable in individual patients but 85-90 per cent will improve after operation.

The Pancreas

Etiology of Pancreatitis

Hyperenzymemia: Opiés "common channel theory" remains prominent in etiologic considerations by most investigators. Despite increasing interest many unresolved problems remain. Toxic enzymes may play important roles. Injection into the pancreatic duct of an abnormal hemin pigment produced by incubation of blood with activated pancreatic juice produced experimental pancreatitis.[17] This concept implies the formation of an extremely toxic substance which produces vascular ischemia and damage and is supported by the finding of the same specific abnormal hemin substance in intestinal obstruction. It is now known that inactivated pancreatic enzyme collagenase, produced by Clostridium histolyticus and C. perfringens, may escape from the pancreatic ducts into the interstitium producing pancreatitis.[18] The mechanism of transformation of trypsinogen to trypsin with resulting further destruction is not yet elucidated. An active trypsin inhibitor is known to be present in human pancreatic juice.[19] Perhaps humoral proteolytic enzymes released from tissues far removed from the pancreas are important in the cause of postoperative pancreatitis, as evidenced by its presence after prostate or bladder surgery.[20]

Two types of desoxyribonuclease may be elaborated by tissues, one, (DNase I) is peculiar to the pancreas and is found in greatest activity in hemorrhagic pancreatitis.

The viscosity of bile changes when pancreatic juice or trypsin is incubated in the gallbladder and lower pressure flow into the pancreas is permitted.[21]

All factors imply subtle biochemical changes that are as yet unresolved.

Infections

Coxsackie virus has experimentally produced pancreatitis in mice[22] and death due to pancreatic necrosis followed an epidemic of enteritis in brook trout.[23] Liberated toxic enzymes as collagenase, above, may be implicated. Recent studies[24] showed that the enzymes responsible for the disorganization of the oxidative energy release mechanisms are associated with or reside in the microsomes of the pancreatic cells.

Vascular Disturbances

Translumbar aortography is said to have produced pancreatitis when excessive dye concentration reached the pancreas via the celiac axis. Pancreatitis is known to occur with panarteritis nodosum or arteriosclerosis.

Dehydration, alcoholism and gluttony all are said to be important etiologically but the exact definition of their roles is lacking.

Hyperlipemia and pancreatitis are known to coexist.[25,26] Lactescence of the serum after alcoholism and abdominal pain suggests some subtle interrelationship.

Chronic Pancreatitis

Chronic pancreatitis is believed to be an extension of the acute form. A slow progressive obstruction of the major pancreatic ducts in dogs produces the clinical picture of chronic pancreatitis. A hereditary form has been described.[27]

Clinical Aspects: We know little of the relationship between nutritional disturbances and primary or secondary changes of chronic pancreatitis. There has been a recent suggestion that tuberculosis and calcareous disease occur in association.[28]

Electrolyte abnormalities are poorly understood. Hypocalcemia does not occur for 48 hours after an acute episode of pancreatitis. Electrolyte imbalance alone is not responsible for the electrocardiographic, infarction-like, abnormalities noted. Similar changes can be produced by intravenous injection of pancreatic juice with crystalline trypsin in dogs.

The origin of the pleural effusion in pancreatitis, most often occurring in the left thorax, awaits better understanding of the lymphatic drainage of the pancreas.

Pancreatic Carcinoma

As in all oncology, the greatest need for more knowledge comes in the field of early diagnosis. While duodenal drainage cytologic studies are very accurate, greater ease in serum or radiographic studies are needed. Attempts to opacify the pancreas with iodinated dyes such as acridine red have to-date been impractical.[29] Splenoportography may show displacement or obstruction of the splenic vein. Contrast material through the femoral vein similarly attempts detection of inferior vena caval defects. Splenoarteriography is being used for space occupying tail and body lesions. Transverse axial stratigraphy combines tomograms with retroperitoneal air insufflation studies. Nitrous oxide is said to reduce the danger of gas embolism.[30] The present day evaluation of an increase in the retrogastric space or minor defects in the duodenal loop are said to be late signs and probably too far advanced for surgical cure. Certainly better surgical and medical therapeutic methods are urgently needed to overcome the prevailing pessimism. (In one study of 85 patients, only six survived more than one year and none longer than 31 months).

Several intriguing problems in this disease merit more investigation. The cause of anxiety and depression which predominates the clinical picture of early carcinoma of the pancreas is unknown. These psychiatric manifestations are often present for many months prior to other symptoms.[31]

The etiology of thrombophlebitis in association with this disease is equally obscure. Antithrombin mechanisms are not responsible alone.

The clinician must often give palliation for relief of pruritus other than decompression of the biliary tree. Methyl testosterone, cortisone, intravenous procaine, adenylic acid, calcium gluconate and antihistamines leave much to be desired. Trimeprazine (Temaril®) may be of some benefit.

Any discussion of the biliary tract and pancreas would be incomplete without reference to the problems of the differential diagnosis of jaundice. The recourse to surgical or medical therapy of each jaundiced patient depends largely upon an experienced evaluation of the history, physical signs and laboratory data. Investigation of the multiple enzymes present in the hepatobiliary-pancreatic axis may yield better understanding of the pathophysiologic mechanisms as well as reduce our usual 10-15 per cent diagnostic error. Measurements of serum transaminase, iron, B-12, isocitric dehydrogenase, aldolase, radioactive rose bengal and the like all are of helpful but limited value.

Similarly, secretory studies of the pancreas leave much to be desired but future measurements of specific pancreatic enzymes such as phosphodiesterase, ribonuclease and desoxyribonuclease may aid in differentiation of lesions of the pancreas as opposed to those of the biliary tree. A more suitable isotope than Zn^{65} is required in man because of its toxicity.

Miscellaneous Diseases of the Pancreas which require further understanding include ulcerogenic non-insulin producing tumor. The Zollinger-Ellison Syndrome consists of a fulminating and frequently fatal peptic ulceration. Fifty per cent of the ulcers are found distal to the first duodenum; some even distal to the ligament of Treitz. There is a very high nocturnal gastric secretion. The common occurrence of other endocrine gland tumors such as parathyroid, pituitary and adrenal glands suggest a basic disorder of multiple adenomatosis. Many factors mitigate against glucogon as being of etiologic importance despite the isolation of an electrophorectically mobile protein fraction similar to that of glucagon.[32] There seems little doubt that there is a genetic origin of the disease.[33] We have much to learn of the presumed factor in an abnormal gene that produces the malformations of the endocrine glands. A clue to ulcer formation in general may be found in the occult endocrinopathy present in such cases.

Heterotopic pancreatic lesions often lead to hemorrhage. Why this is so remains unanswered even though these submucosal lesions are known to undergo any of the pathological changes of a normal pancreas. In fact, the occurrence of identical pancreatitis in the main gland and in heterotopic tissue is used as a rebuttal against the common channel-bile reflux theory of pancreatitis.

The multiple unknown factors producing the exocrine gland dysfunction in Cystic Fibrosis are gradually yielding to newer developments such as variations in polymerization of the mucus, abnormalities within the sweat gland and reliable diagnostic tests.[34] Perhaps this disease, like the other disorders discussed herein will be better understood and thus more adequately treated with the general increase of our knowledge at the clinical as well as the basic cellular enzyme level.

The unsolved problems of the biliary tract and pancreas obviously invite further intensive investigation for more adequate clarification.

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Conferences: Big or Small?

Statistically minded persons apparently feel that the bigger the scientific conference and the greater its press coverage the more important is that conference, but others believe size may not be the best criterion in evaluating a conference and that attention should be given to the smaller conference as "a really productive medium in the dissemination and evaluation of scientific information."

Men who stay to hear from 20 to 30 scientific papers read in one day may well be admired. Perhaps a written examination on the content of some conference should be held a week after it has adjourned. "We fear that the results would be shattering."

In a multilingual conference, simultaneous translation is often poor. In most conferences the majority of participants do not seem to take notes. Also, some persons are "a little diffident" about committing themselves before 1,000 listeners in a discussion on one or another paper read at the conference. And when conferences split up into several panels, participants are not in a position to know what has taken place in the conference as a whole.

In the Gordon Research Conferences nothing is published and no discussion may be disclosed without prior permission of the speaker. In these conferences participants speak freely and say things that they might hesitate to publish.

The advisability of organizing mammoth conferences has been questioned. Are such conferences necessarily better than smaller ones? Papers usually are prepared in advance and may be individually read instead of heard at the conference.

However, at mammoth conferences not all papers can be heard and few papers can be discussed. If discussion is to be the heart of a scientific conference, perhaps the smaller gatherings would better serve this purpose. *(Canad. M. A. J. 82:837, April 16, 1960.)*

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THE USE OF ANTIDEPRESSANT DRUGS

with particular reference to one of the hydrazine group. (Marplan)†

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CURRENT use of antidepressant drugs was stimulated by the fortuitous discovery of the euphoric action of iproniazid (Marsilid) on a group of tuberculous patients undergoing treatment with that drug. Iproniazid is a member of the hydrazine group of compounds, with the chemical formula: 1-isonicotinyl, 2-isopropyl hydrazine. With respect to its use in the treatment of tuberculosis, this central nervous stimulation was regarded as an undesirable side-effect of the drug.[1] However, in 1957, Kline and associates[2] reported on the results of treatment of depressed, hospitalized psychiatric patients with iproniazid. Subsequent clinical reports[3] confirmed the efficacy of the drug in alleviating the mood disorder of depressed individuals. Unfortunately, however, disturbing complications and side-effects, particularly in the direction of hepatic toxicity, became apparent and several fatalities following iproniazid-induced jaundice were reported.[4] Excellent reviews of clinical and physiological investigations of Marsilid are available.[5] Further pharmacological work led to the synthesis of a number of related compounds within the hydrazine group.

Current antidepressant drugs, which have also been characterized as "psychic energizers," may be divided into two types. The first, as indicated above, includes the hydrazines. This group of drugs is characterized physiologically by the ability to inhibit various enzyme systems, in particular from our point of interest, the enzyme, monoamine oxidase (MAO). The inhibitory effect of the parent drug, iproniazid, on MAO, both in vitro and in vivo, was first discovered by Zeller and associates.[6] It was later found that the administration of iproniazid, a psychic energizer, to animals induced a rapid and marked rise in the level of brain serotonin, together with signs of central stimulation, whereas reserpine, a tranquilizer which may evoke central depression, lowered the level of serotonin in the brain. Furthermore, in animals treated with amine oxidase inhibitors prior to the administration of reserpine, cerebral serotonin levels were high, and the animals were hyperactive rather than sedated.[7] These findings suggested that serotonin has a role in cerebral function as a neurohumoral agent. It was also pointed out that isoniazid, a poor inhibitor of amine oxidase, did not produce a rise in cerebral concentration of serotonin or other amines, nor any obvious central pharmacologic effect.[8]

Woolley and Shaw[9] had previously proposed that serotonin plays a role in the function of normal mental processes. Observations of certain physiologic antagonisms between drugs which cause mental aberrations, such as lysergic acid diethylamide (LSD-25), and serotonin had suggested to them the theory that mental abnormalities might be the result of interference with the action of serotonin in the brain. It was postulated that some mental disorders may arise from abnormalities—presumably deficiency—in the serotonin content of the brain and that attempts to correct this deficiency might constitute a rational method of treating these mental illnesses.

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† Kindly supplied by Hoffmann-LaRoche, Inc., Research Laboratories.

In brief, then, recent extensive studies in the biochemistry of cerebral function have indicated that the amine oxidase inhibitors block the action of monamine oxidase; thus, this enzyme's destruction of serotonin, noradrenaline and adrenaline, as well as other catecholamines, in the brain and other tissues is inhibited, resulting in the accumulation and continued action of these substances, especially serotonin and noradrenaline, in the brain. It is theorized currently that the increase in cerebral serotonin and adrenalines, and possibly other amines, achieved by the MAO inhibitors, is the physiological process which accounts for the observed clinical effects.

The hydrazines currently in use are:

Catron (Lakeside)—B-phenylisopropyl hydrazine HCL.

Marplan (Hoffmann-LaRoche) — 1-benzyl-2 (5 methyl-3-isoxazolylcarbonyl) hydrazine.

Nardil (Warner-Chilcott) — B-phenylethyl hydrazine dihydrogen sulfate.

Niamid (Pfizer) —N-isonicotinyl-N'-B- (N-benzylcarboxamide) ethyl hydrazine.

The other type of antidepressant drug is represented by imipramine (Tofrānil-Geigy), which was introduced in Europe early in 1958. This drug is an iminodibenzyl derivative and is closely related, structurally, to the currently well known phenothiazine derivatives, chlorpromazine (Thorazine) and promazine (Sparine), particularly the latter. Imipramine is not an MAO inhibitor in vitro, although it does raise serotonin and catecholamine levels in the brain to some extent. The drug can counteract the tranquilization produced by reserpine.[10] The mechanism by which it relieves depressive symptoms is not clearly understood as yet. A comprehensive survey of recent studies of Tofrānil was presented in a recent symposium.[11]

Of this group of drugs, we have studied[12] chiefly Marplan. Before presenting details of our experience with this drug, a few general remarks may be pertinent. In general, reports of the efficacy of the antidepressant drugs in the treatment of acute or subacute depressive illnesses have been distinctly encouraging. Approximately two-thirds of patients treated have exhibited gratifying response. Results in chronically depressed individuals have been less satisfactory. The drugs have also been helpful in alleviating depressive symptoms which may occur as concomitants of other types of psychiatric disorders.

It should be emphasized that the drugs initially act somewhat slowly. Thus, although some beneficial effect may be observed within the first week or 10 days of therapy, optimal improvement usually does not appear until three or four weeks have elapsed. At this point, the change, in some instances, may be very rapid and dramatic. A few of our cases have required a period of eight weeks of therapy before satisfactory improvement was exhibited. Accordingly, one should not accept therapeutic failure until an adequate trial, during the time period indicated, has been permitted. It should also be stated that therapy must be continued for some time after apparent remission of the attack. It is impossible at the present time to indicate how long the drug should be administered. It has been suggested that the antidepressant drugs exert a symptomatic effect only, and that they must be continued until the illness has "run its natural course." Possibly several months should intervene before cessation of therapy is attempted. Goldman[13] has suggested that, following the first attack of depressive illness, the drug may be tentatively withdrawn after one to two months of apparent remission.

The efficacy of antidepressant drugs appears to be a correlate of the depressive state, irrespective of its possible etiology or nosological categorization. Thus the drugs are effective in both endogenous or "constitutional" depressions, and exogenous or "reactive" or "neurotic" depressions. Precise differentiation of these forms of depressive illnesses may be difficult, especially during the first attack and prior to the establishment of a well defined history of mood swings or clearly crystallized cyclothymic attacks. We agree also with Kalinowsky[14] and others in the viewpoint that many so-called reactive or neurotic depressions are actually cyclothymic disorders with implications of an affective psychosis but occurring in individuals who also display neurotic features. Inasmuch as the antidepressant drugs are effective against the constellation of depressive symptoms, precise diagnostic categorization assumes a less primary importance. In short, the antidepressant drugs alleviate the mood disorder and its basic symptoms of depression, retardation, and feelings of despair, guilt and futility, regardless of nosological grouping.

The antidepressant drugs are generally quite safe, with few frank complications and relatively minor side-effects. The latter consist chiefly of postural hypotension, dizziness, headaches or sensation of fullness in the head, feelings of weakness or shakiness, tachycardia, and constipation or other gastrointestinal symptoms. Autonomic disturbances such as dryness of the mouth and hyperhidrosis have apparently been more pronounced with Tofrānil. These side-effects are more frequent in elderly individuals. Only rarely are they sufficiently troublesome to require discontinuation of therapy. Insomnia has been noted, although this appears to be more in the direction of a lessened desire and need for sleep. Other side-effects have included localized pedal edema, skin eruptions, ataxia, blurred vision, difficulty with micturition, decreased libido and sexual impotence, or rarely the converse, and neuralgias. Central stimulation may be reflected in the appearance of muscular tremors or twitching, hyperreflexia and clonus. Hypoglycemic glucose-tolerance curves have been observed. Rarely, a brief state of restless excitement or agitation may supervene; this may disappear spontaneously or it can be terminated by the administration of one of the phenothiazine drugs. As with electroshock therapy, there may be a swing finally to a hypo-manic reaction. This can usually be managed by brief omission of the drug and resumption at a lower dosage. A number of reports have indicated that liver function profiles remain normal and that clinical evidence of hepatic involvement is absent. However, there has been one report of fatal hepatic damage attributed to Catron.[15]

During the past year or more we have administered Marplan to over 200 patients at the Fairfield State Hospital. These individuals have been treated chiefly on an in-patient basis; however, a few have received out-patient supervision only, and follow-up care has been maintained in an out-patient setting. Dosage was initiated with 30 mg. daily (one tablet t.i.d.). This was increased, as necessary, usually within 7 to 10 days, to 60 mg. daily. After optimal response was achieved, dosage was reduced to a maintenance level, usually 20 to 30 mg. daily.

A review of the first 100 cases reveals the following data. There were 83 women and 17 men in this series. Their ages ranged from 28 to 82. However, as might be expected in this type of illness, the majority of patients were in the mid- to late adult life span. Thus, 55 per cent were in the 5th and 6th decades of life. The formal diagnostic classification was as follows: Psychoneurotic reactive depression—33; psychotic reactive depression—14; manic-depressive reaction—35 (depressed-27, circular-6, confused-2); involutional psychotic reaction—10; and arteriosclerotic or senile reaction with depression—8. These individuals were all suffering from moderate to severe depressions, as indicated by the need for admission to a mental institution. In general, the illnesses were regarded as relatively acute or subacute episodes.

Analysis of the results achieved in this group of patients indicated the following clinical response: in remission—47 per cent; much improved—23 per cent; somewhat improved—8 per cent; unimproved—22 per cent. Thus, 70 per cent of the group was regarded as having achieved a favorable response. Best results were observed in the group with psychotic reactive depression (86 per cent favorable response) and least satisfactory in the small subgroup of circular and confused manic-depressive patients (50 per cent favorable response).

Attempts to crystallize the factors which may have contributed to therapeutic success or failure were not particularly satisfactory. It might be added that it is also difficult to establish prognostic factors in the treatment of depressive illnesses with electroconvulsive therapy. There was some tendency for males and for patients over 70 years of age to respond less favorably. However, it should be indicated that there were several striking individual responses in individuals well over 70. Multiplicity of attacks of illness did not appear to be a significant factor.

In view of the fact that indications for Marplan are similar to those for ECT with respect to depressive illnesses, one may well inquire into the need for, or desirability of a substitute or alternative for ECT—a therapy which has proved so efficacious in the past. In addition to the ease of administration of drug therapy as compared to the application of ECT, there are several situations which may specifically direct the physician's choice of treatment. Although specific contraindications to ECT are relatively few, there may be a number of instances in which the use of ECT may be inapplicable or hazardous because of the presence of physical complications. Several patients in this series illustrate this point. For example, during the throes of a severe depression one patient had inflicted on himself a severe gunshot wound of the abdomen in a suicidal attempt. He was operated on at a local general hospital where a splenectomy and plication of the left lobe of the liver were performed. He also developed a postoperative pneumonia. Following transfer to the Fairfield State Hospital he continued to exhibit a septic temperature. The use of ECT appeared hazardous. He made an excellent recovery after five weeks of treatment with Marplan. As is so frequently observed, the successful response to Marplan was also reflected in a marked improvement in appetite and food intake, with concomitant gain in weight. Another patient, with a history of two previous attacks of depression, required a series of operative procedures in 1957 for spontaneous tension pneumothorax. A final open operation disclosed a massive replacement of the right lung by emphysematous blebs, presumably congenital. The left lung was similarly involved. Following her admission to this hospital for a recurrent depression, she also developed a diffuse pneumonitis. This current physical illness, together with the previously discovered pulmonary pathology, negated the possibility of treatment with ECT. Her response to Marplan was excellent. A number of patients, particularly in the elderly group, may have significant cardiac disease, which is a source of considerable concern in the administration of ECT. As an example, a woman of 68 was admitted for a recurrent depression. During a previous hospitalization she had exhibited severe reaction to a brief course of ECT. Physical studies again revealed the presence of rather advanced cardiac disease, with hypertension, auricular fibrillation and cardiomegaly. In view of these findings and the previous experience with ECT, it was deemed unwise to attempt this form of treatment again. Instead, Marplan was administered, with gratifying response.

Patients may incur some complication such as a fracture following initiation of ECT, or an intercurrent physical illness may intervene These conditions would negate the possibility of continuing ECT. In such instances drug therapy is a welcome alternative.

Some patients relapse after one or more courses of ECT, or require maintenance ECT to preserve a satisfactory level. Under such circumstances the use of Marplan has proved very helpful. A comparison of relative refractoriness to ECT or Marplan in this series of patients revealed the following information. Of the 70 patients in the successful drug group, 16 had been recently treated with ECT, either in the hospital or by private psychiatrists, without effect or with prompt relapse. These 16 patients, previously refractory to a course of ECT responded well to Marplan. In addition, three patients, who had been receiving maintenance ECT for a number of months, and one of whom had relapsed despite maintenance therapy, were able to preserve a highly satisfactory status with Marplan. Thus drug therapy may be especially appropriate for patients who fail to respond to electroshock therapy, or who exhibit increasingly frequent relapses or become resistant to that treatment. Among the 30 patients regarded as failures with Marplan, 12 had already received ECT unsuccessfully or with prompt relapse. Ten were again treated with ECT; 50 per cent responded favorably.

With respect to the combined use of both therapies, it seems probable, on the basis of current information, that concomitant administration of antidepressant drugs will not materially reduce the number of ECT treatments required. However, there may be stabilization of the effect of ECT by the simultaneous or subsequent use of the drug, with reduction in the incidence of relapses from ECT.

Apprehension of electroshock therapy, whether administered in modified or unmodified form, is still encountered often. In some instances the family refuses to grant permission for this treatment. Such situations may also direct the therapist toward the use of drug therapy. Commitment to a mental institution may also be avoided in appropriate instances by this means. However, the decision to treat any depressed individual on an out-patient basis must be considered carefully in the light of possible suicidal risk.

With respect to the ultimate level of response it has been reported by some investigators that the final result with ECT is superior to that observed with antidepressant drugs. In some instances this conclusion is valid; however, the converse may also be true. As an example, one of the patients in this series had experienced 15 previous admissions to this hospital for recurrent depressive attacks. In the past she had been usually treated with ECT, with generally good response. During her most recent hospitalization Marplan was administered with excellent results. Her spirits were more buoyant, although without actual manic quality, and she appeared to have lost the underlying attitude of hostility which hampered her previous remissions. In this regard it is also interesting to record the self-observation of several patients treated with Marplan who spontaneously offered such comments as: "This is a new me," or "I have a new self-confidence." It has also been affirmed that the treatment period with drug therapy is longer than with ECT. Again, as a general rule, this is probably a valid statement, particularly if initial trial of drug therapy is unsuccessful and must be followed by ECT. Here too, however, results in a number of individual cases are quite favorable in the direction of Marplan.

It is, however, the factor of immediacy of response rather than the total duration of treatment which may direct the treatment toward ECT in specific instances. This temporal factor is particularly pertinent in patients who present significant suicidal risk. As previously indicated, optimal response to drug therapy may not appear until approximately four weeks have elapsed. The relative slowness of response to chemotherapy in this earlier period may make its use unjustifiable in patients with strong suicidal trends. Nevertheless, the danger of suicide is lessened by hospitalization. Thus, in this group of 100 patients, 14 had made suicidal attempts of varying severity and five others had voiced significant suicidal wishes or threats prior to hospitalization; yet, they underwent treatment with Marplan without further incident in this direction.

Summary

A brief review of the historical background of antidepressant drugs is presented. Our experience with one of these drugs, Marplan, has been encouraging. The drug has been safe and effective. Good to excellent clinical response was observed in 70 per cent of a series of 100 patients suffering from

relatively acute or subacute depressive illnesses. Situations in which drug therapy may be specifically useful are outlined. Because of its more immediate effect, ECT is preferable when there is significant suicidal risk. The drug may stabilize the effect of ECT.

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All men feel an habitual gratitude, and something of an honourable bigotry, for the objects which have long continued to please them.

—William Wordsworth: *Lyrical Ballads.*

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Editorials

Attitudes and Careers

As the editor of SCIENCE* points out, *Public Opinion Surveys* has recently completed a study of attitudes toward desirable and undesirable careers, a subject concerning which not enough is known. Data were gathered by interviewers who asked the examinees, consisting of 2,004 adults of both sexes and 1,031 male teenagers from 16 to 20 years of age, to express their views as to the most desirable career by pointing to one of two series of 10 squares indicating ranges from the most desirable to the least desirable. By using such a scale the surveyors were able to record the choices as whole numbers. It is interesting to note that while the adults and the teenagers differed in the order of their choices, the favorite careers of both groups were headed by "physician," though this profession was somewhat less popular with the teenagers than with the adults. Without attempting to cover the entire field of choice, it may be mentioned that scientist, college professor, minister or priest, lawyer, public schoolteacher, officer in the armed forces, radio or television announcer, owner of a small store in a city, and a farmer were popular choices with both groups, though the teenagers ranked lawyer, officer in the armed services, radio or television announcer and store owner higher than the adults. The importance of such studies, which up to the present have not been sufficiently extensive or intensive, bears directly on the question of the need in the existing world situation for individuals trained in certain careers and the opportunity for obtaining such training. In medicine, for example, the cost and to a less extent the duration of the training has greatly increased during the present century so that only recently the necessity for more adequate endowment of the medical sciences has been stressed. In view of the fact that the U.S.S.R. has been heavily subsidizing training in many technical fields, it is important that the free countries should not fall behind in their supply of scientists. It is most encouraging that so many aspire to scientific careers and the practical situation is the creation of opportunities to make this desire attainable.

G. B.

A Place in the Sun

When summer comes, man loves a place in the sun and the physician can help him to enjoy it.

The human being is a biologic system capable of reacting adequately to new situations or to internal needs. The functional activities of the organism are subject to a periodic rhythm related to external factors and endogenous influences.

Recognition of seasonal rhythms in the reactive capacity of the human organism demands that the physician systematize them into new concepts. Individual responses to summer atmospheric and biosocial factors justify the creation of a new body of knowledge that might be called "Summer Medicine."

The thirteenth century compilers of the *Regimen Sanitatis Salernitanum* recommended the adoption of special measures in the summer months: "In Summers heat (when choller hath dominion)—Coole meates and moist are best in some opinion . . ."

We know today that a "person" is composed of two factors: biopsychic organism and "circumstance." Under the last term the philosopher Ortega y Gasset included the double dimension of space and time. In this sense each person is at once a spatial and a historical being.

The surrounding landscape exerts a powerful influence on "persons." The influence of the landscape *color* is a fact. Green and blue—sea and sky, the summer colors—are pleasant and sedative; white (snow), tranquilizing; red and yellow, exciting. Landscape *form* also influences us. The plainsman feels confined when transplanted to the valley, while the city dweller sometimes feels indefinable anguish when confronted with a wide horizon.

Hegel classified landscapes into *highlands, valleys,* and *coast.* These landscapes are characterized by the relation between earth and water. The highlands are dry. The valley is born of the river. On the coast "trembles the sea," as Dante once said.

In the valley the identification between man and earth is complete, allowing individuality and agricultural races to attain maximum expression.

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* Science, 1956, Vol. 123, p. 437.

Monotonous nature divorces the highlander from the landscape, rendering him more companionable and creating races of town dwellers and sometimes of immigrants. The coast with its beckoning sea, symbol of mutability, makes men adventurous but lacking in permanent roots.

To the landscape must be added the *climate. Meridional* climate has a languishing effect physically while it sharpens man's intuition and instincts; *continental* climate, with its extremes of heat and cold and dryness and wetness, and *coastal* climate, with its strong winds and humidity, have a stimulating effect; artificially created *city* climate tends to reduce reproductive capacity and increase intellectual life.

To the permanent climatic conditions and added *climatic rhythms* (daily, lunar, and seasonal). Summer, with its high temperatures and intense light, decreases vitality to its lowest.

In homeothermic animals, high *temperatures* dilate the skin blood vessels, cause physical lassitude (hyperthermia, thermal polypnea, tachycardia), and reduce appetite and fur thickness.

Light generally provokes positive phototropic reactions in some birds and mammals. The *weather* acts through its elements: atmospheric temperature and pressure, humidity, light, air ionization. Summer heat induces depression, restlessness, anxiety and insomnia, reduced work capacity.

Man has been described as a "cosmic sounding board," and weather as a cosmic effector mechanism governing organic reactions. Studies (Wheeler) have suggested that each climatic phase (heat-humidity, heat-dryness, etc.) may stimulate a certain type of historical period. Bonanza years, it is claimed, are "humid," depression years are "dry," dictatorships bloom in "hot-dry" years, and periods of democratic stability are "cool" and "humid."

"Summer Medicine" as a *corpus doctrinalis* can be of positive value to our profession. It can be of greater value to man who in the summer forsakes artificially weathered modern life and renews contact with outdoor life and nature. Instead of being harmful, this should, under adequate medical guidance, restore to him the joy of living in a place in the sun.

From *MD Medical Newsmagazine*, 1: 7, July, 1957, with permission of the editor.

The Mask and the Mirror

A face bewitched Paris fifty years ago—the face of a young girl who put an end to her life in the still, green waters of the Seine. Her death mask at the Paris morgue gripped the hearts of Parisians. The adolescent countenance, already marked by suffering, glowed with gentle resignation, and the young lips appeared to smile as if in death the child had at last found peace and contentment. Paris poetically called her *L'Inconnue du Seine.*

In the past the human face held a great fascination for both physicians and artists. "The countenance proclaims the heart and inclination," said Sir Thomas Browne. Artists sought to immortalize the beauty of the human face, while physicians avidly studied it—the Hippocratic facies, the scrofulous facies, the leonine face, the myopathic facies—in search of the inner processes of disease.

But early in the present century, Picasso, with his *Les Demoiselles d'Avignon,* started a trend in Art that would culminate in the automatic massacre of that mirror of the soul—the human face, while physicians began to lose interest in the patient's face as a whole and concentrated instead on its parts. "Modern" artists conscientiously dismembered the face and put it together again, turning into multispiked geometry the sweet harmony of its curves; while physicians, under the impact of the advances in laboratory research, concentrated on ocular, otoscopic, rhinoscopic, and other explorations, and gradually forsook the clinical observation of the whole face, which down the centuries so fascinated Greek *periodeutas,* Arabian hakims, and Renaissance physiks alike. Dismemberment of the spatial scheme of the face and loss of interest in the face occurred simultaneously in Art and Medicine.

Perhaps there were reasons for such events. Perhaps the face was being over-ornamented. How severely taxed a nineteenth century Frenchman's face must have felt under the burden it was forced to carry! In addition to its usual parts, it had to withstand a mustache the size of a fox's tail, sideburns several inches long, a goatee, spectacles or a monocle, wrinkles, and birthmarks. It must have felt like an overcrowded attic. The female face was subjected to an equally sad fate. Cosmetics feuded bitterly with personality and original charm. Perhaps the artist sought to find in a single feature what the whole face could no longer reveal. Instead of beauty of the whole, the mystery imprisoned in each part became the challenge. And the artist who concentrated his interest on one facial feature—eyes, mustache—was but reflecting the attitude of the physician, who himself turned his attention to the partial reports made by the specialist and the laboratory.

Fortunately, there seems to be a revival of interest in the face as a whole, be it mirror or mask. We no longer believe that the face is a mirror of the soul. This new interest that is being evidenced in both Art and Medicine is centered not on the form of the face but on its *expression,* not on the face as a window but on the world that lies beyond it.

This change in interest from the purely anatomical to the psychophysiological in the human face had its beginning in Art in the baroque, as exemplified by Il Tintoretto and El Greco. A good example was the change in interest from the eye, an organ, to the look, a function. Greek sculptors left just a hole between the eyelids, for they felt that if the eye was beautiful the look was not. Only in the baroque did the look begin to have more importance than the eye. The best exponent of this point was Goya, in whose paintings the pictorial anatomy of the eye was relegated to the background by *the look* conveyed by the eye. The yearning to capture the *expression* not just of the eye but of the whole face is now also infiltrating medicine.

Today it is recognized that no objective scientific description can provide as clear an idea of what ails a patient as his own words can. Hence the advisability of using the patient's own words when writing a clinical case history. Similarly, nothing in the face of a patient can guide a clinician as much as his *expression.*

Let us, then learn once again to look at the human face with the same avid curiosity as our ancient predecessors. Let us be fascinated above all by its expression, that priceless clue to character and, even more important to us, disease. For just as the young face of *L'Inconnue du Seine* vividly recorded her tragedy, so may the face of man record the greatness of his life and the misery of his pain.

Félix Martí-Ibáñez, M.D.

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Need For Decisive Action

The recent hearings in Washington have finally shook up many of our leading Pharmacy officials as well as titular heads of many of the leading pharmaceutical manufacturers. Suddenly they have discovered what many of us have known for some time, and that is that there is nothing to be gained by letting all of these charges and unjust accusations go unchallenged. If ever there was a blunt answer to our lack of public relations down through the last generation, this is the end product. We are reaping exactly what we have sown—and we alone are responsible for the beating we are taking from the cheap coon hunter who hails from Tenn. In this particular instance, we are again already on the defensive as we have been so often in the past. It is the same familiar pattern, and the same positive result.

There is still another very black card in the Washington pack which promises still further grief for Pharmacy, the profession. Let us bear in mind that we are a dependent profession. We can never stand independently for the simple reason that we must receive prescriptions in order to exist. It behooves us all to be prepared for every eventuality originating from the District of Columbia. We must have intelligent people representing us during any hearing relating to pharmacy, health, or drugs. Up to this time their plan to confuse, divide and conquer us has worked only too well. Our defensive strategy is without any realistic value and it is foolhardy to continue utilizing it. It is high time Pharmacy took the offensive and an aggressive one at that.

In Connecticut a great big hullabaloo went up over an expenditure of $1,300,000 for drugs to maintain what is claimed as one of the nation's most outstanding welfare programs—but what was covered up in the smoke screen was that it was but a very small part of a $25 million bowl of gravy. Where does the rest of the welfare budget go and how is it that we can get such an accurate breakdown on prescription costs, but we can't find out what the rest of the money is spent for? In the last biennium, the Connecticut Welfare Department experienced a deficit of $12,000,000 which is almost six times the cost of the medicine which keeps all of these persons well for a year, and there is every reason to believe that the present administration will continue to show a huge deficit in their next financial report. It seems hardly justified that expediency should require physicians and pharmacists to jeopardize their integrity and character to save a few paltry dollars, when millions are being poured down the rat hole of inefficiency and bureaucracy.

In Washington a great big ado about nothing is being made (about nothing) in this election year, concerning the terrible plight of the elderly and the aged who are living on pensions and social security. The politicians claim these people need help sorely, but they neglect to tell you that it is because they themselves have reduced the purchasing power of the American Dollar with their political shenanigans, so that it has shrunk to a new low in value. Neither do they tell you that these people need help to pay their rent, their taxes, their food and their clothing. Oh no—they just need help to pay for their medical expenses and their prescriptions, because these are so expensive. What a crock of tommyrot for people to swallow! We should tell everyone who will listen just how cheap medicine is actually. If you need a good comparison, use the example of the auto which your customer parks at your door. This one will hit home. Don't drag your tail between your legs like a scared pup—fight back with everything you have and stand up for your professional rights.

Far be it from me to say there are no needy cases over 65, who need some financial help. The facts, however, would indicate that the growing political concern about them stems more from a personal angle than from a humane one. The State Welfare programs are geared to maintain the health of the indigent at a minimum. Does it make sense for the National Welfare officials to suddenly become concerned about our elderly population?

The A.M.A.'s department of economic research has come up with some interesting facts which deserve telling to every possible individual. The 65 and over group of citizens have a greater net worth than almost any other age group in this country. Over 55.2 per cent own their homes or other real estate, 53 per cent have savings, 20 per cent own stocks and 35 per cent have life insurance. In most individual cases, those over 65 are better able to afford medical care than those under that age. Yet these are the people that our benevolent government is becoming so concerned about, because of the present cost of prescription medicine.

H.R. 4700—the Forand Bill is not especially designed to assist the needy, since it would apply to all social security beneficiaries. Worse still, it does not apply to a majority of needy persons who are not eligible for social security benefits.

The McNamara Committee of the United States Senate should be commended for coming up with a sensible conclusion. It is their opinion that the problem of the aged is extremely over exaggerated. Reliable authorities are unanimous in stating that the majority of those over 65 years of age present no special problems. They can handle their own situations well or have them handled by those who are near and dear to them. Besides, they dislike to bother and burden others with their personal problems. They possess human dignity, are not abnormal, and want to be considered like everyone else.

One of the first thoughts today is to hand one's problems over to the government. Security is being sought from the cradle to the grave but it can never be in the cards to come about, since there is no security on this earth. We are just here for a little while and the state can never, never give to the aged or anyone else, the warmth, appreciation and tender concern which is the very heart of the social problems we face in this generation. The tendency has become more and more, recently, for the state to shift the responsibilities of parents and children from the human to the institution.

What we often fail to realize is that there are no diseases of old age. Every type of illness and disease which is the cross of the aged of our population is shared also by all other ages. We most certainly should make every effort to compel familiar obligations by law and the strict enforcement, such as is usually done in the cases of dependent children and divorcees. Governmental agencies should be left out unless there is no other solution, because when government attempts to assume all of these socialistic and paternal roles, and we allow them to do it, the knell of doom for this nation has sounded. This in itself is most certainly a sign of degeneration and weakness and it becomes one of the main reasons for tempting the strong to conquer and socialize us. In strength and aggressiveness there is character, but in a doleful submission there can be nothing but ignominy and ultimate disintegration. The trend towards socialization is being foisted upon us because we have become a nation of naive and apathetic individuals looking only to the government for the solution of our major problems. The trend will not change until we assert the leadership so obviously needed.

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Enovid, Norlutin and Delalutin

Norethynodrel with ethynylestradiol (Enovid-Searle) and norethindrone (Norlutin-Parke, Davis) are synthetic compounds offered for the treatment of dysfunctional uterine bleeding, particularly in the adolescent, for producing anovulatory cyclic bleeding in patients with amenorrhea, and for other conditions which in the past have been treated mainly by intramuscular administration of progesterone, sometimes with added estrogen. Taken orally, Enovid and Norlutin are as effective in producing secretory changes in the endometrium as injected progesterone (A. L. Southam, *Ann. N. Y. Acad. Sciences, 71:* 666, 1958). They are much more effective than oral ethisterone (Pranone-Schering, and others), the most potent oral preparation previously available.

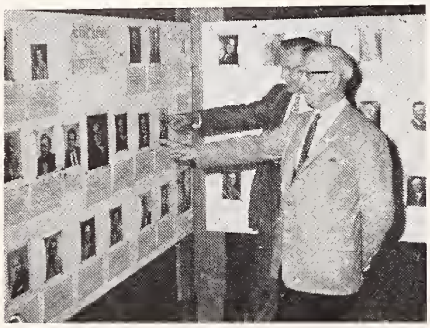
Norlutin has inherent estrogenic effect; the estrogenic effect of Enovid results from the presence in each 10-mg. tablet of 0.15 mg. ethynylestradiol. The estrogenic activity of both drugs generally eliminates the need for priming with estrogen as is done in the treatment of amenorrhea with progesterone. Because of their estrogenic effect, these drugs cannot be substituted for pure progesterone in the diagnostic test for estrogenic function in a patient. The estrogenic activity may account for the greater effectiveness of these drugs, as compared with progesterone, in the treatment of functional bleeding. In prolonged therapy, however, breakthrough spotting or bleeding may occur, particularly with Norlutin. Increasing the dosage may stop the bleeding.

Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.

Physicians Participate In 50th Anniversary Of Griffin Hospital

Members of the medical staff, nurses, and personnel of Griffin Hospital conducted a highly successful health fair at the Ansonia Armory recently in connection with the celebration of the 50th anniversary of Griffin Hospital, in Derby.

The fair opened the afternoon of May 12 and continued through the following afternoon and evening. On Saturday evening a buffet supper and dance for hospital personnel and community leaders concluded the three-day observance. Dr. John Renehan, Ansonia, president of the medical staff, was chairman of the planning committee. The event was attended by more than 3,000 area residents and was featured with dedication of a new wing at the hospital. Photos on this page depict some of the activities at the fair, which took place during National Hospital Week.



Dr. Samuel B. Rentsch, left and Dr. Michael A. Parlato, staff members, view the exhibit on the history of the growth and development of Griffin Hospital since its founding in 1909. The section of the exhibit pictured here displays photographs and biographical sketches of present and former members of the hospital's medical staff.

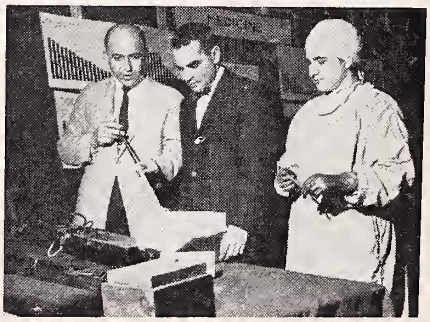
One of the most popular exhibits at the fair was the model operating room. Former surgical patients were particularly intrigued as doctors explained operating room procedures. Behind the masks, left to right are Miss Ruth Demanchyk, R.N., Mrs. Josephine Brandon, R.N., Miss Virginia Goggi, R.N., Dr. Philip D. Henry, surgeon, who supervised the project; and Dr. John J. Narowski, anesthesiologist.

A real hit of the fair was a unique Health Theater, operated one afternoon and evening on the first floor of the armory. Dr. John Renehan, president of Griffin Hospital medical staff, and Dr. Stewart J. Petrie, are shown in this picture greeting two young theater patrons, brothers Richard and Ronald Todd.

More than 1,000 persons of all ages visited the theater and films were shown on careers in medicine and the health professions, new methods of artificial respiration, accidental poisoning, cancer detection, and heart ailments.

The project was sponsored by the Naugatuck Valley Medical Association, and cooperating agencies included the State Medical Society, Connecticut Division, American Cancer Society, and the Connecticut Heart Association.

Dr. Charles M. D'Allessio, right, chief radiologist at Griffin Hospital, and Dr. Horst N. Bertram, associate radiologist, demonstrate the use of X-Ray films for visitors. The films were located in a booth where an extensive variety of modern equipment was on display.



In the booth devoted to medicine, Dr. Nicholas J. Milazzo, left, and Dr. Vincent A. DeLuca, Jr., internists, view a gastroscope on display while Miss Virginia Goggi, hospital nurse, readies other equipment.

THE PRESIDENT'S PAGE

THE Fourth of July arouses Americans to re-dedicate themselves to our noble national purpose of accelerating the evolution of human freedom. None of us would reject this great purpose. Nevertheless, realities of our society have limited the degree of freedom in some situations. Unlimited freedom to choose and pursue one's own particular interest at the expense of the interests and freedoms of others, for example, could actually constitute an undesirable abuse of freedom and a violation of our national purpose.

The fact that it may be necessary to impose certain limitations upon a principle such as "free choice" does not signify that the principle itself must be discarded. The medical profession, while strongly supporting the principle of "free choice", believes that an untrained person should not be permitted to carry on medical practice merely because he chooses to do so. Even for those who qualify for a license to practice, the medical profession has established systems of rating or certifying physicians for the performance of various types of medical care and for staff appointments granting limited privileges. Such systems not only limit the physician's choice of the kinds of services he can perform but also obviously limit the patient's choice of physicians for the performance of certain services. In addition to such limiting factors, a physician also has the right to choose where he will serve and whom he will serve.

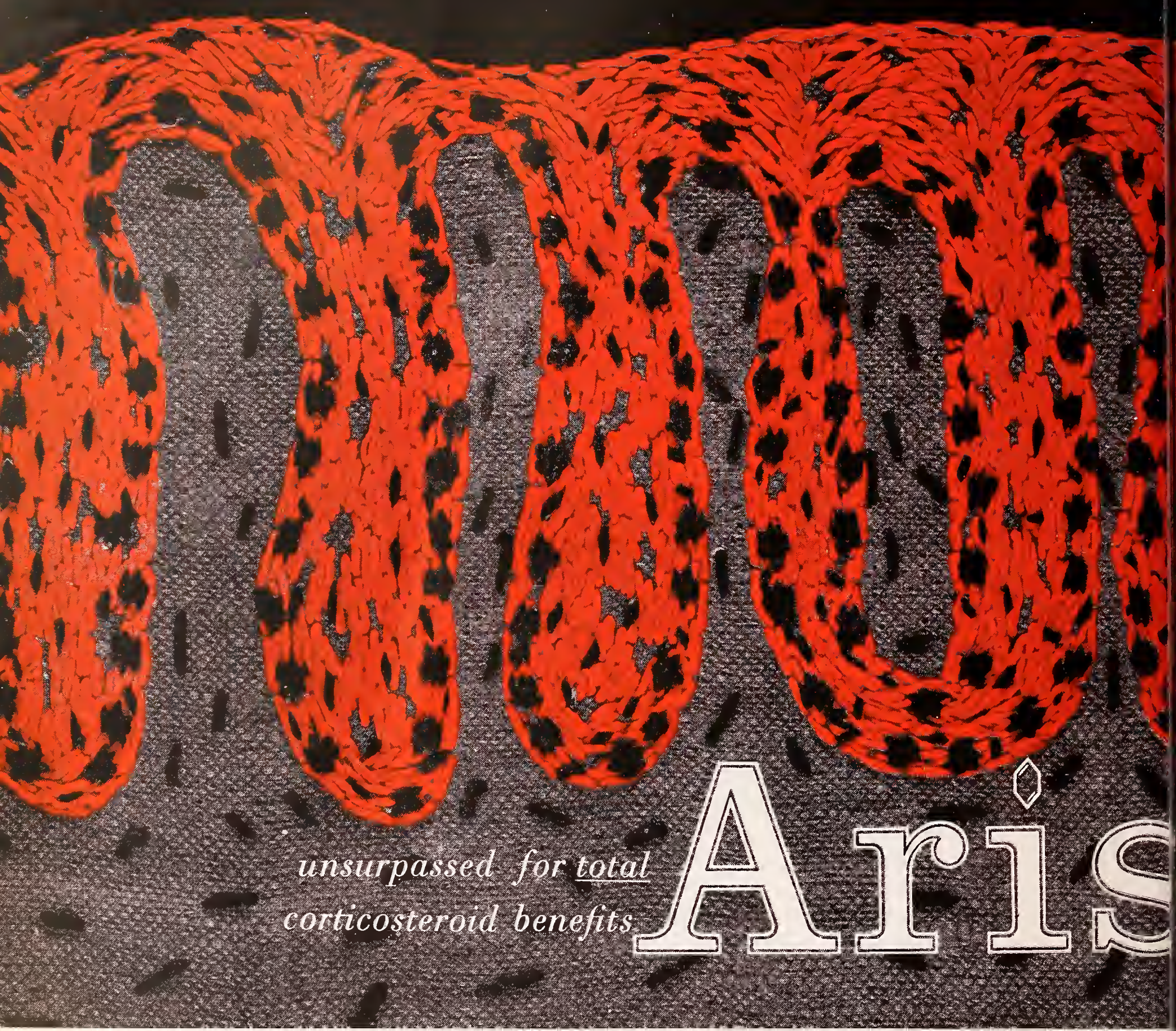
In general, every person should be accorded the privilege to select and change his physician at will. Here too, however, there may be some limitations. When a law makes a third party legally responsible for the full costs of obtaining medical services, it may be held to be unreasonable for a patient to insist upon transportation to a far distance for treatment, at the third party's expense, when competent care could be obtained locally. A law might well be considered unfair, however, "when a reasonable degree of free choice of physicians is denied those cared for in a community where other competent physicians are readily available" (quotation is from 1927 report of AMA Judicial Council reaffirmed by AMA House in 1957).

The bi-partite principle of "free choice" (physician's right to choose whom he will serve; patient's right to choose his physician) is an important factor in the provision of medical care. Despite the fact that limitations may be necessary to prevent undesirable abuses of this freedom (as with all freedoms), the principle should not be discarded but should be applied as universally as practicable.

In the personal matter of medical care, it seems self-evident that a patient could not cooperate fully with a physician to whom the patient did not want to entrust himself and that a physician could not be fully effective in caring for a patient whom he did not want to serve (especially a patient needing services outside the physician's field). It follows that both types of "free choice" (the patient's and the physician's) are essential to optimal medical care.

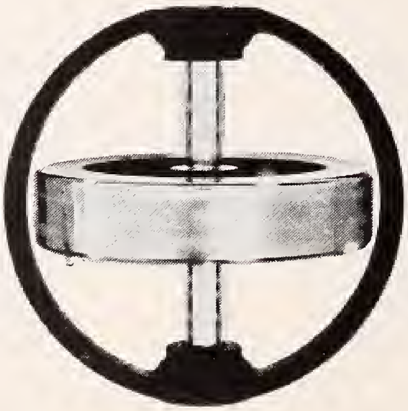
JOHN N. GALLIVAN, M.D.

in allergic and inflammatory skin disorders (including psoriasis)



Substantiated by published reports of leading clinicians

- **effective control** of allergic and inflammatory symptoms[1-3,7,8,12-15,17,18]



- **minimal disturbance** of the patient's chemical and psychic balance[1,4-18]

At the recommended antiallergic and anti-inflammatory dosage levels, ARISTOCORT means:

- **freedom from salt and water retention**
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- **negligible calcium depletion**
- **euphoria and depression rare**
- **no voracious appetite — no excessive weight gain**
- **low incidence of peptic ulcer**
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Precautions: With ARISTOCORT all traditional precautions to corticosteroid therapy should be observed. Dosage should always be carefully adjusted to the smallest amount which will suppress symptoms.

After patients have been on steroids for prolonged periods, discontinuance must be carried out gradually over a period of as much as several weeks.

Supplied: 1 mg. scored tablets (yellow); 2 mg. scored tablets (pink); 4 mg. scored tablets (white); 16 mg. scored tablets (white).

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References: **1.** Feinberg, S. M.; Feinberg, A. R., and Fisherman, E. W.: *J.A.M.A.* 167:58 (May 3) 1958. 2. Epstein, J. I., and Sherwood, H.: *Conn. Med.* 22:822 (Dec.) 1958. 3. Friedlaender, S., and Friedlaender, A. S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958. 4. Segal, M. S., and Duvenci, J.: *Bull. Tufts N.E. Medical Center* 4:71 (April-June) 1958. 5. Segal, M. S.: Report to the A.M.A. Council on Drugs, *J.A.M.A.* 169:1063 (March 7) 1958. 6. Hartung, E. F.: *J. Florida Acad. Gen. Practice* 8:18, 1957. 7. Rein, C. R.; Fleischwager, R., and Rosenthal, A. L.: *J.A.M.A.* 165: 1821 (Dec. 7) 1957. 8. McGavack, T. H.: *Clin. Med.* (June) 1959. 9. Freyberg, R. H.; Berntsen, C. A., and Hellman, L.: *Arthritis & Rheumatism* 1:215 (June) 1958. 10. Hartung, E. F.: *J.A.M.A.* 167:973 (June 21) 1958. 11. Zuckner, J.; Ramsey, R. H.; Caciolo, C., and Gantner, G. E.: *Ann. Rheumat. Dis.* 17:398 (Dec.) 1958. 12. Appel, B.; Tye, M. J., and Leibsohn, E.: *Antibiotic Med. & Clin. Ther.* 5:716 (Dec.) 1958. 13. Kalz, F.: *Canad. M.A.J.* 79:400 (Sept.) 1958. 14. Mullins, J. F., and Wilson, C. J.: *Texas J. Med.* 54:648 (Sept.) 1958. 15. Shelley, W. B.; Harun, J. S., and Pillsbury, D. M.: *J.A.M.A.* 167:959 (June 21) 1958. 16. DuBois, E. L.: *J.A.M.A.* 167:1590 (July 26) 1958. 17. McGavack, T. H.; Kao, K. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958. 18. Council on Drugs: *J.A.M.A.* 169:257 (January) 1959.

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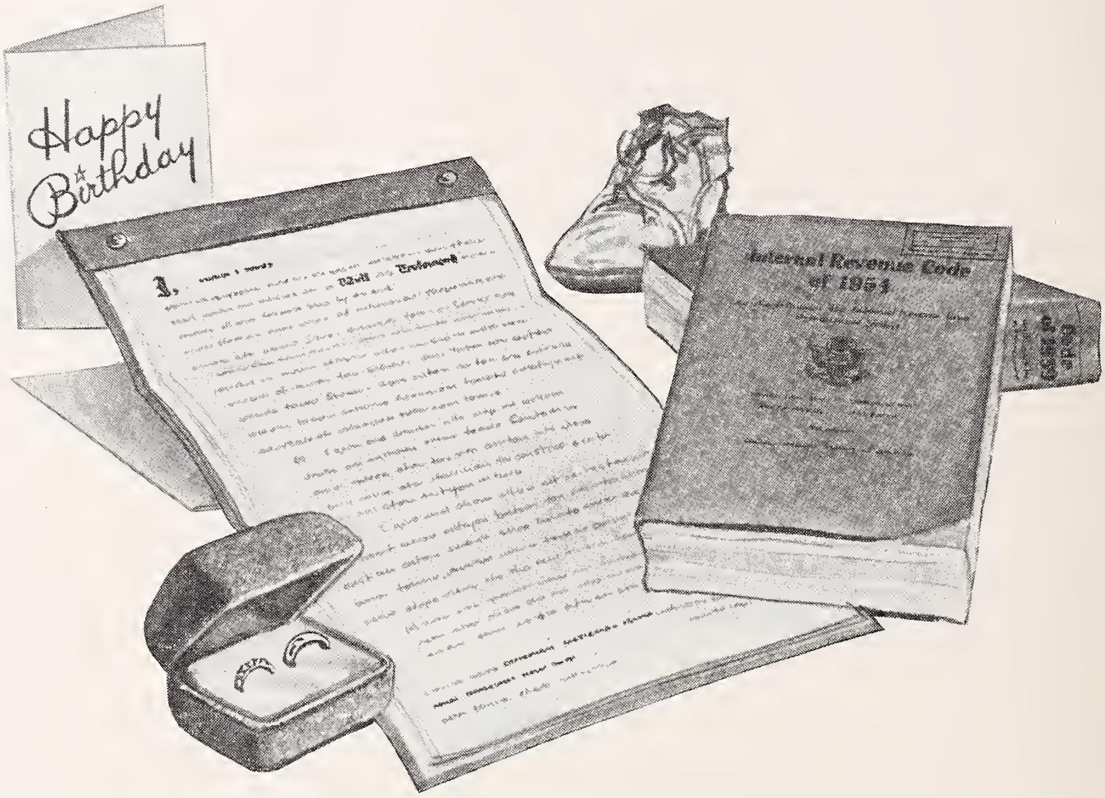

Once a will has been written, signed, witnessed, and filed away it is not unusual for an individual to feel that he has properly taken care of the ultimate disposition of his estate — and then dismiss the matter from his mind.

Unfortunately, when the time finally comes to distribute the estate, the will may not represent the testator's true wishes. Conditions may have changed without a corresponding change in the will.

A periodic "Will Review" can prevent such unfortunate situations from arising. If you have not re-examined your will recently, we suggest that you get together with your attorney and one of our experienced Trust Officers soon for a thorough "Will Review" and estate analysis. Why not call your attorney today and ask him to set up an appointment with CNB?

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FROM THE GENERAL MANAGER'S OFFICE

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James G. Burch
Director of Public Relations

Josephine P. Lindquist
Assistant to General Manager

STATEMENT OF THE CONNECTICUT STATE MEDICAL SOCIETY RE: MEDICAL CARE OF THE AGED

Submitted to the Connecticut Commission on Services To Elderly Persons—June 6, 1960.

It would almost seem to be unnecessarily repetitious for the Connecticut State Medical Society to file additional lengthy statements in regard to its position on the subject of financing the medical care of the aged in Connecticut, and on other matters which relate to the provision of needed health services to our older population. Through various articles, editorials, news releases and reports the Society has attempted to make its position clear to the profession, our legislators and the public.

In general, the Connecticut State Medical Society believes that a course of action based on the following considerations will effectively and adequately meet the requirements of our senior citizens in respect to their health and the financing of their medical care:

1. For those older persons who have reasonably adequate resources, we favor self-purchase of comprehensive health insurance policies, an increasing number of which are rapidly becoming available to people of all ages at moderate cost. We favor continued experimentation by the voluntary plans in this field, particularly in the matter of major medical coverage. There are already encouraging reports being made which indicate that this type of protection is feasible for the old as well as the young.

2. For the needy aged and all others who find it necessary to accept public assistance, maintenance of the high quality of care which is presently being provided to them through the welfare programs should be sufficient. However, the purchase of health insurance for the Welfare Department's clients might well prove to be a means of reducing the admittedly substantial costs associated with the over-all operation of the program.

3. For the "medically indigent" (as distinct from the totally indigent), we favor a state-administered program of assistance in financing health insurance. Again, we support this method of assisting people of all ages who would experience undue financial hardship in buying a health insurance policy rather than only those who are 65 or older. We believe that a liberal "means test" is a necessity and should be an integral part of this type of assistance program, since the proper interest of the taxpayer must be protected against abuses.

We believe that any plan of this nature should be established and administered at state level because the costs of medical care and of health insurance vary so greatly in different parts of the country. A state plan can be tailor-made to fit local conditions; a federal plan cannot. (Report of the House of Delegates, April 1960 issue.)

It is encouraging to us to note that as of this very day, the House Committee on Ways and Means is considering a bill which is in general accord with this concept rather than one of the Forand-type proposals which embody Federal administration and compulsion.

4. To meet the needs of the chronically ill and those who need nursing care rather than general or special hospital care, we favor the expansion of nursing home facilities in those areas of the State in which there is need for additional beds. We favor utilization of the Hill-Burton mechanism and the Federal Housing Act to encourage this expansion. As mentioned under 1, we believe that major medical policies can be developed to substantially defray the costs of nursing home care.

5. For those who need neither general hospital nor nursing home care, we favor the development and expansion of home nursing and "homemaker service" programs. Such plans are already established and functioning in many parts of the country and they operate in a effective manner to reduce the number of hospital and nursing home admissions, shorten the stay in those institutions and help to keep families together. We feel that the latter consideration is of great, if not of primary, importance.

6. For people who are approaching retirement, we favor programs of education which are designed to prepare them to better meet the problems posed

by the aging processes. Such programs should include information about the maintenance of good diet, adequate physical and mental exercise, suitable recreation and other health habits which are important and beneficial from a preventive medicine standpoint. Also, starting early in their working careers, all employed people should receive competent instruction in sound methods of providing financial security for their retired years in accordance with their income, including facts and figures on investments, annuities, pension plans and life, health and accident insurance.

7. For working people reaching their 65th birthday, we favor permissive continuation of employment even, if necessary, on a reduced work schedule and at a lower rate of pay. If they continue to be automatically and summarily retired, as at present, they are suddenly faced with the basic problem of greatly reduced financial resources. This will call for a change in attitude on the part of both management and labor toward compulsory retirement.

Most older people are in reasonably good health, enjoy relatively undiminished productivity and, in many cases, possess valuable skills and know-how which are currently being lost to business and industry because of an employment cut-off regulation based on age.

8. For those retired persons who qualify for Social Security benefits, we favor removal of present income restrictions which, it seems to us, tend to deny to the eligible recipient the OASDI benefits which are rightfully his. Existing Social Security regulations also tend to promote dependency on government, a condition which is unfair to those who are still contributing to the program through taxation and one which, whether we like to think so or not, encourages concealment of income beyond the allowable level.

9. For people of all ages who are faced with the problem of fixed or sub-standard income, we favor a vigorous and frontal assault on the serious national economic disease of inflation. The persistent dwindling of the purchasing power of the dollar has affected older people perhaps more than any other single group of Americans. Even those who have planned carefully to assure themselves financial independence after retirement are finding that what was thought to be adequate 10 or 20 years ago now affords only the barest subsistence. Any program of any agency which is intended to improve the status of the aged as to food, medical care, housing or clothing must be an anti-inflationary program as well, designed to maintain and, if possible, increase the presently reduced purchasing power of pension, savings and annuity dollars.

If they are properly implemented, these are some of the positive proposals which the Connecticut State Medical Society believes can deal effectively with the total financial problems of some of our older people and, more specifically, with the financing of their health care needs through voluntary insurance programs.

The Society also holds certain opinions of a more philosophical nature that may be worthy of mention. In making our views on matters pertaining to the aged and aging known to the public, we have found it quite impossible to avoid discussions of the Forand Bill and other bills of a similar nature. It is in these circumstances that the Society, along with other medical and paramedical organizations, has been forced into the presumably unpopular position of seeming to oppose allegedly needed legislative action in the health care field.

For example, we do not believe that any of the following have a real or significant bearing on the matters under discussion.

The Problem

At some time in the comparatively recent past, certain lay groups began to emphasize the problems associated with the aging process, a matter organized medicine has had under active consideration for more than a decade. Soon, particular emphasis began to be placed on *the* problem—meaning that area which deals with the provision of medical care to the aged. As a consequence, it has been made to appear as if *the* problem and its size and scope has long been a matter of common knowledge.

In our minds, one thing is crystal clear: No person of any age who needs and seeks medical care has been or is being denied it because of relative or absolute inability to pay for it. This is certainly one aspect of *the* problem which doctors of medicine are uniquely qualified to state does not exist.

Other Aspects of the Problem

Examination of the results of independent economic surveys and studies made by the insurance industry, coupled with common sense and personal experience, has convinced the over 3,200 physician members of the Society that, except for the totally indigent, the number of older people who must be classified as "medically indigent" is probably not significantly large and in any event is unknown at the present.

Until such time as it becomes a proven fact to the contrary, we simply do not believe that the problem of medical indigency is great enough in Connecticut to call for costly and sweeping legislative action such as is proposed by bills of the Forand type. In the first portion of this statement, we have described what we feel can be done to assist the medically indigent.

Rallies for the Aged

As a means of helping to define the health care needs of the aged, the physicians of Connecticut strongly reject the idea that a useful function is being served by the device of rounding up large groups of older people and herding them into public meeting halls where they can be exhorted to "demand" government-controlled medical care for themselves. The reported remarks of political figures and the representatives of pressure groups at meetings of this kind confirms our opinion that the primary intent of these rallies is to "tell" the aged what they should want, rather than to "ask" them what their actual needs are.

Health Care and Politics

Both by charter and tradition, medical societies do not participate in political activity. Nevertheless, physicians are quite as aware as most other citizens of the political implications often associated with legislative proposals which have a strong appeal to one particular segment of the electorate.

Despite the claims of some that promising federal health care to the aged constitutes only an idealistic approach to meeting an alleged need, most outspoken legislators are frank to admit that political overtones are strong and even possibly paramount in this matter. The large number of hastily contrived proposals which have recently been submitted as substitutes for the Forand Bill seems to us to attest to this as a reality. The Connecticut State Medical Society deplores making health care for anyone a political issue and has urged the Congress to take no definitive action on any of these proposals until all have been carefully studied in terms of need, costs, practicability and sound evaluation by medical and paramedical professionals.

Medical Care as a Function of Social Security

We have attempted to express our basic objections to superimposing any system of medical care on the Social Security structure. Quite apart from the financial considerations of such a scheme, however, it is interesting to speculate as to whether applicants for medical care benefits under Social Security would have to have the rules and regulations "explained" to them in the same way that is done now for those wishing to apply for cash benefits. We feel very strongly that governmental red tape and the practice of medicine will simply not mix.

Attacks on the Medical Profession

It is the opinion of many doctors, based in large part on first hand information, that there is a nation-wide plan in operation which is designed to discredit the medical profession and the other groups which provide health services to the American people. We make no defense of any physician who fails to measure up to his avowed duties and responsibilities, but it is our conviction that the "win at any price" attitude of some of the proponents of government-controlled medicine is not in the public interest.

This concludes the formal statement of the Connecticut State Medical Society. On behalf of our more than 3,200 physician members I wish to express the thanks of the Society to the Chairman and the members of the Connecticut Commission on Services to Elderly Persons for this opportunity to present our collective views here today.

Respectfully submitted,

WILLIAM R. RICHARDS, M.D.
General Manager

COUNCIL MEETING

Wednesday, May 11, 1960

The organizational meeting of the Council for 1960-1961 was held on Wednesday, May 11, 1960 at the Society's building, 160 St. Ronan Street, New Haven. Members present were Drs. Gallivan, Feeney, Goldberg, Hess, O'Connor, Caplan, Cullen, Gardner, Scully, Abbot, Weise, Bradley, Cornwell, Katzin, Buckley, Rentsch, Murray, Schiavetti, Gilman, Gorman, Pollock, Gevalt, Grant, Davis, Purnell and Chartier. Absent was Dr. Phillips. Also present was William R. Richards, M.D., General Manager.

In accordance with the by-laws, the organizational meeting of the Council was called to order by the President, John N. Gallivan, East Hartford. After introducing all members of the Council who were present, and after making some personal remarks, observations and recommendations, he declared that nominations for the post of Chairman of the Council for 1960-1961 were in order.

The name of Ralph L. Gilman, Storrs, Councilor from the Windham County Medical Association, was placed in nomination. There were no other nominations. It was VOTED to act upon this nomination by a voice vote and Dr. Gilman was thereupon elected Chairman, without dissenting vote, and he assumed the chair.

MINUTES OF MEETINGS MARCH 10, 1960, JANUARY 27, 1960. The printed minutes of the Council meeting of March 10, 1960 were approved.

It was VOTED to authorize the following correction in the minutes of the Council meeting of January 27, 1960:

In the third paragraph of the published minutes to read: "It was therefore *VOTED to recommend* *to the House of Delegates* that the January 27, 1960 special meeting of the House of Delegates be held in Executive Session from beginning to end and it was further VOTED not to exclude members of the Society from attendance."

REVIEW OF SUB-COMMITTEES OF THE COUNCIL. Sub-committee to Study and Revise the By-laws: It was VOTED to authorize the Chairman to appoint the members of this sub-committee and designate its chairman. The Chairman appointed: William J. Murray, Jr., New London, Chairman; John N. Gallivan, East Hartford; Gerard M. Chartier, Danielson; Samuel B. Rentsch, Derby.

CMS-CSMS Liaison Sub-committee: It was VOTED to authorize the Chairman to appoint the members of this sub-committee and to include the General Manager as a member ex-officio. The Chairman appoined the following: Ralph L. Gilman, Storrs, Chairman; E. Tremain Bradley, South Norwalk; Max Caplan, Meriden; Thomas M. Feeney, Hartford; John N. Gallivan, East Hartford; Orvan W. Hess, New Haven; Nicholas T. Phillips, Norwich; and William R. Richards, General Manager, New Haven, Ex-officio

Sub-committee on Loan Fund:

It was VOTED to authorize the Chairman to appoint the members of this sub-committee, the sub-committee to serve on a standby basis. The Chairman appointed: Isadore S. Goldberg, Torrington, Chairman; Richard F. Grant, Cromwell; Michael R. Scully, Bridgeport.

Sub-committee on Opinion Survey:

It was VOTED to authorize the Chairman to appoint the members of this sub-committee and designate its chairman. The Chairman appointed: Norman H. Gardner, East Hampton, Chairman; Philip M. Cornwell, Hartford; Vincent A. Gorman, Bridgeport; Benjamin Katzin, Torrington; Denis S. O'Connor, New Haven.

"NURSING NEEDS AND RESOURCES IN CONNECTICUT." An abstract of "Nursing Needs and Resources in Connecticut," a survey conducted by the Joint Commission for Improvement of the Care of the Patient, which had been prepared by the General Manager, was presented.

Following full discussion, it was felt that not enough information was available to approve the document and the recommendations contained therein.

It was therefore VOTED that consideration of this document be deferred until the Council has full information on it or until one of the Society's representatives on the Connecticut Joint Commission for Improvement of the Care of the Patient can be present at a Council meeting to provide more information on the Survey and its summary and recommendations.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH. It was VOTED to approve the formation of a Section on Preventive Medicine and Public Health and to transmit this action, with approval, to the House of Delegates at the semi-annual meeting.

CONNECTICUT MEDICAL SERVICE, INC. It was VOTED to refer the Resolution on CMS, adopted by the House of Delegates on April 26, 1960, to the Sub-committee to Study and Revise the By-laws. This is the Resolution which proposes to make members of the Society who serve as Directors of CMS, Inc. ex-officio members of the Council, without vote, during their tenure of office as CMS Directors.

Several members of the Council and the General Manager reported on personal conversations they had had with members of the CMS Medical Advisory Committee with regard to activities of that body in developing a new CMS contract or contracts. It was made clear that all of this information was unofficial, there having been no official information received from CMS during the past several months. It was understood that the new Chairman of the Council would seek to arrange a liaison meeting in the near future, an action voted by the Council at the meeting of March 10, 1960 which had failed of achievement because of conflicting dates.

CSMS-CHA PANEL. The Council was informed via a letter from Mr. Stuart Knox, Executive Director of the Connecticut Hospital Association, that the Board of Trustees of that organization had decided not to accept the recommendations of a special CHA-CSMS Joint Conference Committee that a panel be made available, on request, to assist in resolving disagreements between member hospitals of the CHA and members of the Connecticut State Medical Society after intra-hospital mechanisms have been exhausted without satisfaction to both parties.

After thorough discussion of this important matter, it was VOTED to develop a panel of this type as a unilateral action of the Connecticut State Medical Society, and it was further VOTED that the development of this plan be referred to the Committee on Hospitals for implementation. A roll call vote of the amendment to refer this matter to the Committee on Hospitals was called for and was recorded as follows:

VOTED YES: Gallivan, Feeney, Goldberg, Cullen, Abbot, Bradley Cornwell, Katzin, Schiavetti, Scully, Gorman, Gevalt, Grant, Purnell and Chartier. (15)

VOTED NO: Hess, O'Connor, Gardner, Caplan, Weise, Buckley, Rentsch, Murray, Pollock and Davis. (10)

SCHOLARSHIP AID FOR NURSING. A request had been made by the Chief Nursing Examiner that the Council endorse and support a proposal that $250,000 be included in the budget of the State Department of Health for the purpose of scholarship aid for nurses, and that a letter be sent to Commissioner Foote to this effect.

The tenor of the ensuing discussion indicated that the Society has generally avoided lending its support to proposals which involve the appropriation of money. It was therefore VOTED *not* to endorse any specific amount of money for nursing education through scholarships. It was then VOTED that the General Manager be directed to write a letter to Commissioner Foote, endorsing *in principle* scholarship aid for nursing education.

COMMITTEE TO MEET WITH THE INSURANCE COMMISSIONER. Prior to the onset of his present illness, Commissioner Alfred N. Premo had agreed to meet with the representatives of the Connecticut State Medical Society for the purpose of discussing with him certain matters relating to Connecticut Medical Service, Inc. This meeting had been requested by the Society when it was informed that the Commissioner had recently met with representatives of the CMS Board of Directors. Realizing that Mr. Premo's illness might call for an indefinite postponement, it was VOTED to authorize the Chairman to appoint a suitable committee to meet with the Insurance Commissioner and that such a committee include among its members a representative of the Medical Advisory Committee, CMS, Inc. and a member of the Society's Committee on Third Party Payments. The Chairman appointed the following committee: John N. Gallivan, East Hartford, Chairman; Frank K. Abbot, Waterbury, (Third Party Payments); William J. Murray, Jr., New London; William R. Richards, New Haven; Allan J. Ryan, Meriden, (MAC); Alfred Schiavetti, Stafford Springs; Ralph L. Gilman, Storrs, Ex-officio.

AD HOC COMMITTEE RE COUNCIL OF NEW ENGLAND STATE MEDICAL SOCIETIES. In compliance with the action of the House of Delegates on April 26, 1960 which called for the appointment, by the Council, of an ad hoc committee to review and re-examine the Society's relationship with the Council of New England State Medical Societies, it was VOTED that the Chairman appoint an ad hoc committee for this purpose. The Chairman appointed the following: Ellwood C. Weise, Sr., Bridgeport, Chairman; Frederick C. Gevalt, Sharon; Oliver J. Purnell, Rockville; Oliver Stringfield, Stamford; William R. Richards, New Haven, Ex-officio.

JOINT CONFERENCE COMMITTEE WITH CONNECTICUT PHARMACEUTICAL ASSOCIATION. It was VOTED to accept the resignation of Benjamin Katzin, Torrington, as chairman of this committee. Dr. Katzin was asked to consider remaining on the committee as a member.

It was then VOTED to appoint Walter J. Keefe, Hartford, as chairman of the committe for 1960-1961.

RECOMMENDATIONS CONTAINED IN "REPORT OF THE SECRETARY" WHICH WERE NOT ACTED ON BY THE HOUSE OF DELEGATES, APRIL 26, 1960. (A) To take appropriate cognizance of the passing of Dr. Creighton Barker. The Council VOTED that the Chairman appoint a committee to draft a suitable resolution to be adopted by the Council at its next meeting, such resolution to give appropriate recognition to Dr. Barker's service with the Society and his many contributions to the betterment of the Society. The Chairman appointed the following: Norman H. Gardner, East Hampton, Chairman; Willard E. Buckley, Middletown; Denis S. O'Connor, New Haven.

(B) To include a "Report of the General Manager" as an item on the agenda of future meetings of the House of Delegates.

Instead of adopting this recommendation of the Secretary (1959-60) the Council VOTED to adopt the following resolution introduced by Denis S. O'Connor, New Haven.

"WHEREAS: The appointive office of "General Manager" was created to provide for the full-time administration and coordination of the Society's multiple activities, and

WHEREAS: The duties of the former elective office of "Executive Secretary" have been largely assigned to the General Manager, rather than to the elective office of "Secretary," and

WHEREAS: It is incumbent upon the General Manager to keep the Council and the House of Delegates continuously informed in all matters pertaining to the affairs of the Society, therefore be it

RESOLVED: That the Council of the Connecticut State Medical Society grant to the General Manager the privilege of being recognized to speak, and assign to him the duty to report, at meetings of the Council and the House of Delegates."

It was further VOTED that the General Manager be authorized to engage assistance, at additional compensation if necessary, to participate in recording the proceedings of meetings of the Council and the House of Delegates.

PENSION OF CREIGHTON BARKER, NEW HAVEN, DECEASED. It was VOTED to defer action on the matter of Dr. Barker's pension until the next meeting of the Council and to refer the matter to the Pension Committee for study and report. It was further VOTED to continue Dr. Barker's present pension during this period of study, payment to be made to Mrs. Creighton Barker, and it was further VOTED to authorize the Pension Committee to make such expenditures as may be necessary, subject to the approval of the Chairman, in order to make its study and prepare its report.

DELEGATES TO THE 1961 WHITE HOUSE CONFERENCE ON AGING. Delegates to this conference will be appointed by Governor Ribicoff sometime in the near future. John Donnelly, Chairman of the Society's Committee on Aging, feels that it would be most desirable to have several members of the Connecticut State Medical Society included in the Connecticut delegation. It was therefore VOTED that the Chairman recommend to Governor Ribicoff the appointment of members of the Society to be delegates from Connecticut to the 1961 White House Conference on Aging, and that the Chairman present to the Governor a list of suitable nominees for such appointment. The Chairman submitted the following names to Governor Ribicoff: John N. Gallivan, East Hartford, President, 1960-1961; John Donnelly, Hartford, Chairman, Committee on Aging; Arthur B. Dayton, Hamden; George Gildersleeve, Norwich; James R. Miller, West Hartford; Edwin F. Trautman, Trumbull.

COMMITTEE ON HOSPITALS. It was VOTED *not* to accept the resignation of Vincent A. Gorman, Bridgeport, as a member of the Committee on Hospitals.

ELECTION OF STUDENT MEMBERS. The following student members were elected: Ronald Kermit Ohslund, Hamden; University of Virginia—1961; Pre-Med: Middlebury College; Parent: Ambrose L. R. Ohslund.

Sanders T. Frank, Middletown; New York Medical College—1963; Pre-Med: Amherst College; Parent: Harry S. Frank, M.D.

AMA MEETING, JUNE 13-17, 1960. It was VOTED *not* to adopt a motion introduced by Orvan W. Hess, New Haven, which proposed to send additional members of the Council to the AMA Meeting in Miami, June 13-17, 1960, for the purpose of "promoting and furthering . . . . those points of view which are considered to be in the best interest of the members of this Society." The feeling was expressed that our three AMA Delegates or their Alternates would give capable representation to the members of the Society at meetings of the AMA House of Delegates.

BOARD OF EXAMINERS OF HYPERTRICHOLOGISTS. It was VOTED to recommend the names of Ellwood C. Weise, Sr., Bridgeport, and Reginald C. Gillson, New Haven, (incumbents) for appointment to three year terms starting July 1, 1960, on the Board of Examiners of Hypertrichologists.

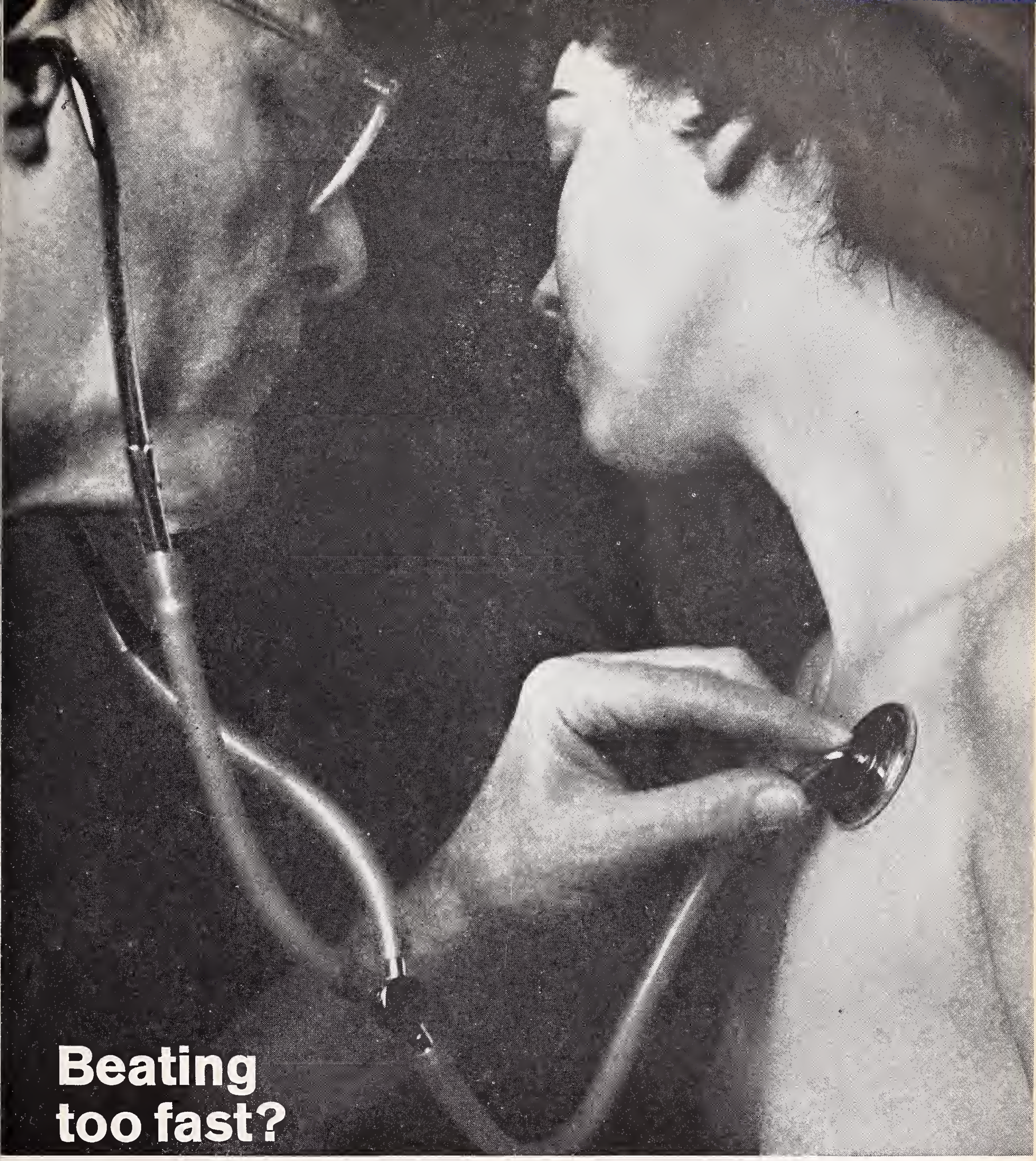
RE CHIROPODISTS PRESCRIBING SYSTEMIC MEDICATIONS. Since it is becoming evident that the chiropodists intend to pursue this matter through legal channels, and possibly through legislative channels, it was VOTED to authorize the Chairman to appoint a suitable committee to represent the Society in this regard. Dr. Weise suggested that the members of the Society, who had participated in earlier informal meetings with representatives of the Podiatry Association, be considered for membership on this committee. The Chairman appointed the following members: Louis P. Hastings, Hartford, Chairman; Alfred L. Burgdorf, Hartford; Russell V. Fuldner, New Haven; Clifford W. Mills, Norwalk; and Ellwood C. Weise, Sr., Bridgeport.

STATE CONFERENCE ON PREPARATION FOR 1961 WHITE HOUSE CONFERENCE ON AGING. At the suggestion of John Donnelly, Hartford, Chairman of the Committee on Aging, it was VOTED to authorize the Chairman to forward the names of five or six members of the Society to Professor Donald Kent, Chairman of the State Commission on Services to Elderly Persons, with the request that they be extended invitations to attend this conference. The conference will be an all-day affair and will be held in Hartford on June 14, 1960. The names of Maxwell O. Phelps, Hartford; Thomas M. Feeney, Hartford; Peter J. Scafarello, Hartford; John N. Gallivan, East Hartford; and Ellwood C. Weise, Sr., Bridgeport had been submitted as possible representatives from the Society. These members of the Society were appointed by the Chairman, including William R. Richards, New Haven.

COMMITTEE ON HEALTH OF THE GOVERNOR'S COMMITTEE TO PREPARE FOR THE 1961 WHITE HOUSE CONFERENCE ON AGING. It was VOTED to authorize the Chairman to appoint two members of the Society to meet with representatives of this Committee on Health to advise with the latter as to the report which they propose to submit to the Governor's Committee. The Chairman appointed John N. Gallivan, East Hartford and Ralph L. Gilman, Storrs.

NEXT MEETING OF COUNCIL. It was VOTED to hold the next meeting of the Council on Thursday, June 23, 1960.

The meeting was adjourned at approximately 7:50 P.M.



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Clinical Medicine

REPORT OF AN ADDITIONAL CASE OF EXTRAPANCREATIC TUMOR ASSOCIATED WITH HYPOGLYCEMIA

Christie E. McLeod, M.D.*
Middletown

Dr. Virginia Kneeland Frantz has been interested in the subject of Extra-Pancreatic Tumors Associated with Hypoglycemia as evidenced by her report in 1956[1] and her discussion of this subject and summary of 17 case reports at a recent pathology meeting.[2] This talk brought to mind a similar case in our hospital file.

Case No. A7073, Autopsy No. 20-50. This white female patient, age 60, was first admitted to the Middlesex Memorial Hospital, December 10, 1947 because of a large swelling under the right ear which had been present for 16 years. This tumor was removed and diagnosed as a mixed tumor of the parotid. At that time, the patient was also having tarry stools and a G. I. series was done which revealed an irritable duodenal bulb with no evidence of ulcer. She was re-admitted because of bleeding from the G. I. tract, which on December 23, 1948 became a massive hemorrhage. She had had three G. I. series in the intervening eight months in order to try to determine the bleeding point, but no lesion was found. Because of the persistent bleeding, it was decided that an exploratory operation should be done and a tumor of the jejunum was found. This tumor was described as follows: "9 cm. of jejunum is received. There is a mass in the center of the specimen 6.5 x 5 x 4.5 cm., the surface is completely encapsulated. On section it has a brown yellow necrotic appearance with a more fleshy pinkish grey zone occupying about half of the mass. The capsule is continuous with the serosa. The mass therefore, is covered by serosa. On opening the lumen of the bowel there is an elevated oval zone measuring 1.5 x 1.2 x 0.4 cm. The mucosa appears intact over this lesion, but the mucosal folds are lost. The blood vessels are prominent, but no bleeding point is apparent. The surrounding mucosa is normal. The attached mesentery opposite the mass shows no palpable lymph nodes. The microscopic sections (Figure 1) show proliferation of spindle type cells forming whirls around vascular channels. There are a moderate number of mitoses and a few anaplastic cells. There are areas of necrosis and hemorrhage." This was diagnosed as a leiomyosarcoma. In addition to this portion of the jejunum the appendix and a serous cyst of the ovary which measures 11 x 7 cm. were

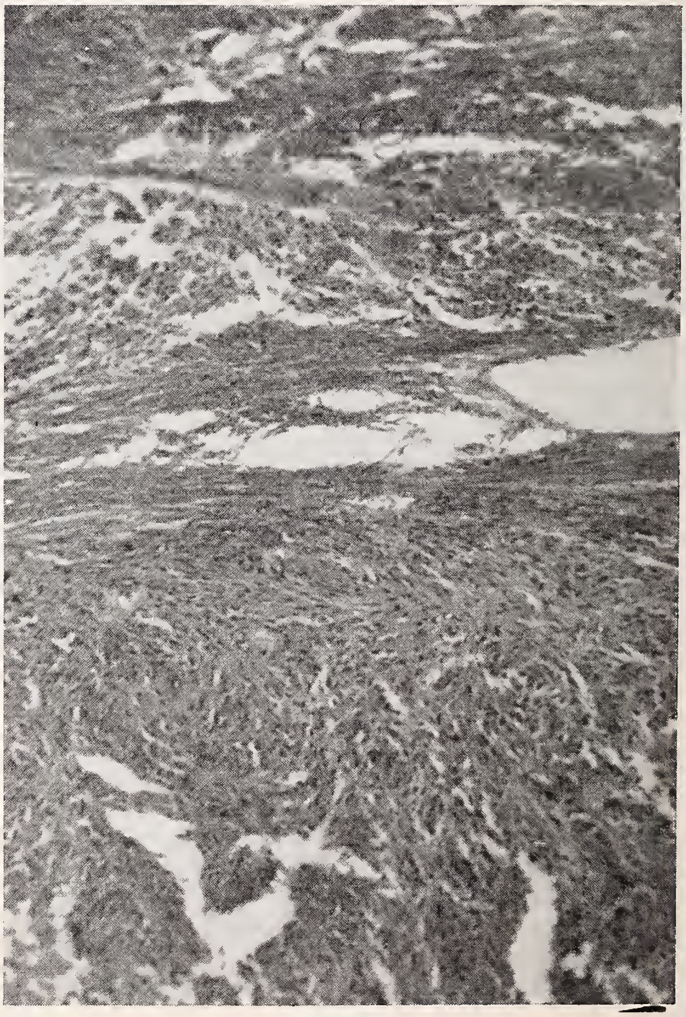

Figure I
Primary leiomyosarcoma in jejunum. x100.

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* Pathologist, Middlesex Memorial Hospital, Middletown, Connecticut.

also removed. The patient was seen in January, 1949 at which time she complained of constipation for which she was given metamucone. She also complained of dizziness and her blood pressure was found to be 180/100. At that time, and again on May 1, 1949 when she was examined, there was no evidence of recurrence of the tumor.

The patient's final admission was on December 30th, 1949 at which time it was stated that she had felt fairly well until about a month before when she had had spells of weakness and excessive sweating. She had complained of epigastric distress for two weeks and felt so tired that she did not even like to get up. At 6 A.M. on the morning of admission she complained of severe pain in the epigastrium and then she became semi-conscious. She was seen by her own physician at home at 7 A.M. She did not respond to questioning, was semi-comatose, restless and groaning. BP 170/80, P 60. She was brought into the hospital by ambulance where she was found to be comatose, groaning, restless. The abdomen was distended by a tumor in the epigastric region. A blood sugar taken on admission was 24 mgs./100 ml. The patient was given 2000cc of 10 per cent glucose intravenously. She revived and became mentally alert. The following morning her blood sugar was 21 mgs./100 ml. and she was again comatose, but after being given 50cc of 50 per cent glucose intravenously she again was alert and normal. She was placed on a regular diet and given orange juice frequently and on the morning of January 15th, her blood sugar was 40 mgs./100 ml. Intravenous glucose was added to her regular feedins and she was urged to drink plenty of orange juice. An exploratory laporatomy was done and a massive metastatic tumor found in the left lobe of the liver which was biopsied and found to be metastatic leiomyosarcoma. The patient's immediate post operative course was reasonably good, but she continued to go into comatose attacks and expired on February 11, 1950. Other blood sugars taken at times of coma, on occasion, were also in the hypoglycemia range (24 mgs., 21 mgs., 40 mgs./100 ml.)

The positive findings at the autopsy examination were a huge metastatic leiomyosarcoma involving the left lobe of the liver and a terminal bronchopneumonia. There was *no* evidence of an islet cell tumor of the pancreas either grossly or microscopically and no other metastases were found. The liver weighed 3900 gms. Except for adhesions to the capsule and a nutmeg-like appearance, the right lobe was normal and completely free of metastasis. The entire left lobe was completely infiltrated by a huge mass of tissue which had a soft greyish appearance at the periphery with some hemorrhagic and necrotic areas on section. This metastatic tumor had the same histologic pattern as the original primary leiomyosarcoma in the jejunum. (Figure 2)

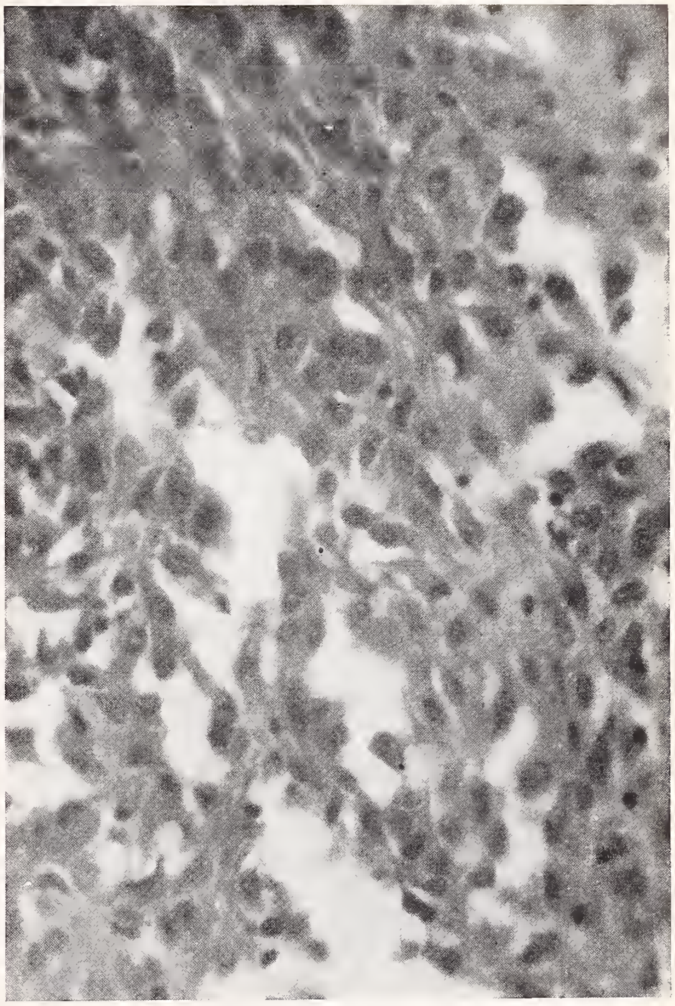

FIGURE II
Metastatic leiomyosarcoma in liver. x430.

Several theories[3, 4, 5, 6, 7] have been offered to explain the hypoglycemia associated with these fibrogenic tumors: (1) The direct action of a product of tumor metabolism upon the pancreas with continuous or excessive production of insulin, (2) The production of an insulin-like substance by the tumor, (3) The secretion of some substance which acts as an inhibitor of insulinase or competes with insulin for insulinase, thus diminishing the rate of destruction of insulin in the body, (4) The increased utilization of carbohydrates by tumor cells, (5) Interference by the large tumor with the sympathetic innervation of the liver, (6) An important unknown physiologic mechanism in the control of blood sugar.

Unfortunately no assays of this tumor were made. The only one of the 17 reported cases that had positive tumor assay studies was that of August and Hiatt.[8] Their assay of the grossly fibrous portion of the intrathoracic fibrosarcoma showed insulin activity equal to 0.5 unit of insulin/gm. of tissue. Total activity of the tumor was estimated as 600 units of insulin. They stressed, however, that the biologic assay carried out on the tumor tissue was a measure of insulin activity rather than of the hormone itself and that until a specific test for insulin is available the nature of the substance found in the tumor is doubtful.

August and Hiatt[8] in discussing increased carbohydrate utilization by the tumor tissue as an explanation noted however, that although it is well known that tumor tissue has glycolytic activity[9, 10] and produces tumor lactic acid which indeed they observed in their case, it has yet to be demonstrated in any cases that carbohydrate utilization by widespread cancer of even the most metabolically active varieties is sufficient to produce systemic hypoglycemia. The fact that in several cases the tumor was above the diaphragm, in the kidney or retro peritoneal region, is against the theory of interference with the sympathetic innervation of the liver by the large tumor as the cause of the hypoglycemia.

There was no clinical evidence of hepatic failure in our case and the entire *right* lobe of the liver was found to be normal at autopsy.

Summary

Another case of severe episodic hypoglycemia relieved by the administration of glucose associated with a huge metastatic leiomyosarcoma to the left lobe of liver from a primary leiomyosarcoma in the jejunum is added to the 17 cases of hypoglycemia associated with extrapancreatic tumors of fibrogenic origin reported in the literature. The cause of the hypoglycemia is not explained.

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Clinical Pathological Conference

PARK CITY HOSPITAL

BRIDGEPORT

Conducted by ROY N. BARNETT, M.D. JUNE 23, 1959

Discussed by GORDON JONAS, M.D.

The following conferenec was held at Park City Hospital, Bridgeport, on June 23, 1959. Presiding was Dr. Roy Barnett, Chief Pathologist.

Case History

This 39 year old woman was admitted to the hospital on 7/31/56. Previous admissions had been for cholecystectomy in 1947, appendectomy in 1941, and incomplete abortions in 1950 and 1954.

Two days before the present admission, she had inserted a rubber catheter into the cavity of the uterus to induce abortion. Following this there was severe lower abdominal pain and vaginal bleeding, which persisted to the time of admission. At the time of admission she appeared extremely sick and toxic. Blood pressure was 90/60, pulse 80, temperature 99. The abdomen was not distended. There was a great deal of pain in the thighs. The uterus felt somewhat enlarged. There were blood clots exuding from the vagina. The cervix did not feel dilated. There was some degree of cyanosis.

Laboratory work was as follows: Hemoglobin 9.6 grams, WBC 28,250, with 40 polys, 50 stabs, three lymphs, seven juveniles. Urine appeared to be grossly bloody, but microscopically there were no red cells. She was seen by a consultant who felt that she should receive transfusions and antibiotic therapy and be explored abdominally. She received, all told, five blood transfusions. At the time of exploration there was blood colored fluid in considerable amounts in the abdominal cavity. The left ovary appeared enlarged and was removed. No evidence of perforation was found. The bladder was opened to see if there was any rent in it because of the bloody urine, but none was found. During the next few days her temperature hovered between 101 to 102°. She appeared toxic and cyanotic despite the administration of oxygen. It was noted that her serum was blood tinged, indicating the presence of hemoglobin which was measured as approximately one gram/100 ml. in a free state. The WBC rose to 43,000 with 29 adult polys and 65 stabs. Treatment, in addition to the blood transfusions, oxygen and fluid also included streptomycin and penicillin. Complaints of the patient included leg and abdominal pains, chest pain and vomiting. She expired at 1:15 P.M. on 8/3/56.

Discussion

Dr. G. Jonas: This case is typical of gas gangrene of the uterus. Infection by Clostridium welchii still does occur. The organism can normally be found growing in the intestine, bile, urine, vagina, and in the soil. Consequently, necrotic tissue in any location can provide the proper anaerobic media for their growth and multiplication.

The chief clue to the diagnosis was present on admission. A crimson urine without the presence of red blood cells strongly suggests hemolysis and hemoglobinuria. A recent series from Bellevue Hospital attests to the frequency of this sign in Clostridium welchii infection.

In a paper I co-authored on Gas gangrene of the uterus (Godsick, Hermann, Jonas, and Lester, Obstetrics and Gynecology, Vol. 3, No. 4, 1954) we pointed out both from our own experience and from other references that the lack of correlation of the temperature with the course is common. In fact, one of our cases with a successful outcome had a hypothermia of 94.2°.

Nausea, vomiting, jaundice, and headache are common. A number of authors have described a characteristic hue resulting from an admixture of jaundice and cyanosis.

The pathogenesis of the infection was outlined by Russell and Roach in 1929, (1) The organism must be introduced into the uterus (2) Dead tissue must be present at the time the organisms are introduced (3) The injured tissue must remain in the uterus for sufficient time for incubation (10-12 hours) and (4) Damaged maternal tissue must be exposed to the bacteria.

The bacteriological diagnosis is usually made with ease because of the characteristic stormy fermentation on culture. Since this organism is a common commensual its presence does not prove a diagnosis of Gas gangrene infection. There must be clinical evidence of pathology. This pathology can be divided into five stages (from Welch)

1. Fetal emphysema
2. Endometritis
3. Physometra
4. Peritonitis
5. Generalized sepsis with metastatic gas gangrene.

We came to the conclusion that if there is no evidence of perforation of the uterus and/or visceral damage, that surgical intervention is *not* indicated. With present day antibiotics, it is possible to create an artificial barrier between the endometrium and the myometrium. Large doses of antibiotics and antitoxin should be used. Surgery eliminates the offending organ but has many disadvantages. The peritoneal barriers are removed and susceptible skeletal muscle is exposed to the organism. Clamping and hemostasis of necessity spread any infection and leave more necrotic tissue upon which the organism can grow. In this case a gentle dilatation and curettage with sponge stick removal of the necrotic debris would have been sufficient surgical therapy. The case that does not respond to intensive medication in all probability would not survive surgery.

In conclusion this is a typical case of a very old disease. Clostridium welchii must be considered as an etiologic factor in any uterine infection. In cases like this the patients' history is usually unreliable. Clinical signs and laboratory work are most important. The organism is susceptible to antibiotics. A prompt judicious balance between "shotgun" and undertreatment must be achieved. Polyvalent Antitoxin is recommended for all cases. Unless there are other indications major or exploratory surgery is contraindicated.

Pathology

Dr. Barnett: The probability of Welchii bacilus septicemia was considered very seriously during the patient's life. At the time of surgery, a culture of the uterine products was made. This was positive for Clostridium welchii. The presence of free hemoglobin in the blood serum in such a patient and of hemoglobinuria noted grossly is almost diagnostic of hemolysis by the clostridium organisms. There is an excellent discussion of this subject in an article entitled "Postabortal Clostridium Welchii sepsis with Massive Hemolysis" by Drs. Isham and Finch of the Yale Medical School which appeared in the New England Journal of Medicine, (Volume 254, page 317), for February 16, 1956. The entity is, however, not sufficiently familiar to all physicians. In the case under discussion it is likely that less surgery would have been done if the diagnosis had been clearly understood in advance.

Anatomic Diagnoses

Enlargement of uterus; acute endometritis; necrotic decidua in uterus; acute oophoritis (right); packing in uterus; recent abdominal incision;[1] absence of left ovary;[2] sutured incision in bladder wall;[2] bilateral pleural effusion;[2] pulmonary edema; congestion of viscera.[3] Subsidiary: Old right upper quadrant incision; surgical absence of gallbladder.

1. Dilatation, curettage and packing performed August 1, 1956.

2. Exploration, cystotomy and left oophorectomy performed August 1, 1956.

3. Clinically septicemia due to Clostridium Welchii.

Hormone Treatment of Cancer

An exhaustive 12 year study of estrogens and androgens in the treatment of disseminated breast cancer by the American Medical Association subcommittee on breast and genital cancer revealed increased survival time of patients in whom objective regression of disease occurred. The report further concluded that estrogens were superior to androgens in a qualitative fashion and by a significant degree.

The female hormones were given only to women in whom menopause had occurred. Before menopause, estrogens may augment breast cancer.

The subcommittee recommended estrogens as the agent of choice after the fourth menopausal year.

The estrogens and androgens were of equal value in the treatment of bone involvement. In patients with soft tissue lesions regressions occurred significantly more often after estrogen treatment.

In the fifth decade, and after the age of 80, the effectiveness of the androgens decreased from the level of the previous decade. In terms of endocrinologic age, the estrogens reached a plateau of effectiveness after the fourth postmenopausal year and the androgens after the eighth.

The study also showed:

—The younger the patient is at the time of recognition and treatment of her primary disease, the longer a recurrence is postponed.

—The older the patient was at the time steroid treatment was started, the more likely was a regression to occur.

—In patients with soft tissue lesions, regressions occurred significantly more often after estrogen treatment.

—Estrogens and androgens must both be credited with a greater degree of potency against cancer than previously accorded them.

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State Auxiliary Schedule

The following schedule has been announced for the Woman's Auxiliary for the year 1960-1961.

School of Instruction and Board Meeting—June 6th—Connecticut Light and Power Co., Berlin

Board Meeting—Sept. 26th—home of Mrs. Morton Arnold, Windham Center

State Fall Meeting and Luncheon—Oct. 19th—Hartford Golf Club, Hartford

Board Meeting—Dec. 12th—Grantmoor Motor Inn, Berlin Turnpike

Board Meeting—Feb. 13th—Colonial Inn, Hamden

Board Meeting—March 20th—Gallo's Terrace, Berlin Turnpike

Spring Meeting and Luncheon—April 27th — New Haven

Organizational Meeting Held

The first Board meeting and the organizational meeting of the Woman's Auxiliary to the Connecticut State Medical Society was held Monday, June 6th at the Connecticut Light and Power Co. in Berlin.

Round Table discussions were held for the new county and state chairmen and officers and plans for the year's work were outlined by the president, Mrs. Morton Arnold.

A letter from Dr. William R. Richards, General Manager of the Connecticut State Medical Society was read which requested auxiliary help in several fields, among them were: the health careers program, national medical legislation, safety and civil defense and public relations assistance to the state medical society for community service projects.

Mr. James E. Burch, Public Relations Director for the Connecticut State Medical Society spoke to the auxiliary. He spoke of the particular success of of HEALTH THEATRE held recently in the state, for the public and suggested the possibility of future programs of this type.

Conference On Aging

The Connecticut White House Conference on Aging was held June 14th in Hartford. The Auxiliary was represented at this meeting which was held to survey objectives, methods and materials of existing programs for the aged and to provide opportunities to explore new avenues of approach to the problems of the aging.

Recommendations from this conference will be incorporated into Connecticut's final report to the White House Conference on Aging in January, 1961.

Following a general assembly and luncheon the conference was divided into various workshops on community planning, congregate living, health maintenance, housing, income maintenance, nonvocational activities, and preparation for retirement. From these workshops suggestions and conclusions were reported back to the general assembly.

Members of the state auxiliary participating were: Mrs. George Rosenbaum, Mrs. John Gallivan, Mrs. Paul W. Tisher, and Mrs. Dewey Katz.

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Meetings Held in June

2 Committee on State Legislation
8 Sub-committee on Toxemia
9 Committee on Public Health
21 State-wide meeting of Committee on Third Party Payments
23 Sub-committee on Opinion Survey Council
29 Advisory Committee on School Health
30 Committee on Public Relations
Committee on Relative Value Study

The Society's Placement Service is in receipt of the following:

PLACEMENT WANTED

James N. Yannios, M.D., age 37, M.D. Univ. of Athens Medical School 1950, Greece. Specialty—Internist. Connecticut license. Desires group or association leading to partnership.

J. K. Turkalo, M.D., age 35, M.D. Univ. of Louvain, Belgium 1950. Specialty—Surgery. Desires group, association or partnership. Available Oct. 1960.

Edwin S. Bronstein, M.D., age 26, M.D. State Univ. of New York College of Medicine. Interested in General Practice with a group, individually or as an associate. Available July 1, 1960.

Orthopedic surgeon would like administrative position.

Daniel P. McCarthy, M.D., (Connecticut License) wishes general practice coverage from July 1st to Sept. 14th. Phone Massachusetts STadium 2-7000.

ANY MEMBER OF THE SOCIETY KNOWING OF OPPORTUNITIES FOR PLACEMENT OF THESE PHYSICIANS IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

INFORMATION PLEASE

The undersigned, one of the editors of the forthcoming volume entitled *The Medical Institution of Yale College 1810-1860* to be published during the sesquicentennial year 1960-61 of the School of Medicine at Yale University, is seeking sources of information and material relating to Connecticut medicine. Any opportunity will be welcomed to examine diaries, letters, account books, medical books, instruments, et cetera belonging to physicians in this or an earlier period of our history. Communications on this subject may be addressed to,

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Book Reviews

CONNECTIVE TISSUE THROMBOSIS AND ATHEROSCLEROSIS. Edited by I. H. Page, Academic Press, New York and London, 1959.

Reviewed by Louis H. Nahum

In the symposium an attempt has been made to describe an aspect of the mechanism of atherogenesis which has received relatively little attention. I have reference particularly to biochemistry on the cellular and molecular level and to the role of fibrin in atherosclerosis and thrombosis.

Two major problems now engage the attention of physicians and investigators alike: (a) Are lipids the prime excitors of atherosclerosis and all else secondary? (b) Is coronary thrombosis or for that matter thrombosis elsewhere in the arterial tree due to or associated with the same mechanisms that are concerned with atherogenesis? In the last 15 years many people have come to think that lipids are not only the cause of atherosclerosis, but by some indirect mechanism also the cause of thrombosis too. It follows that proper manipulation of lipid metabolism would prevent both thrombosis and atherosclerosis. This may turn out to be true. However, some skeptics doubt that this is the whole story or even the main theme. More skeptics appear to reside in England than in this country and Dr. Duguid has in this book formalized these doubts in a working hypothysis in which fibrin deposition not lipids is the main process of atherogenesis. Laying down of fibrin on endothelium is the first step. Endothelial cells then overgrow fibrin strands layer upon layer. This finally provides a cushion in which lipid is deposited. Astrup in his chapter concerns himself less with morphology and more with the equilibria which describe the deposition and resolution of fibrin.

The reaction of connective tissue to injury is important in atherogenesis, although it is not yet clear what constitutes the injury. Dr. Moon in his chapter divides these into (a) initial reaction to injury; (b) maturation of the scar; (c) senescence of the fibrous connective tissue. It becomes evident that many systemic factors influence and control these responses.

Since mucopolysaccharides form the ground substance of connective tissue Dr. Karl Meyer writes on a few of the problems of the structural chemistry of these important biological substances.

Dr. Schmitt deals with collagen extensively and Dr. David Jackson reviews the chemistry of collagen along with reticulin and elastin.

Dr. Glimcher deals with various factors of normal calcification.

Drs. Dougherty and Berliner discuss the influence of a variety of naturally occurring agents on fibroblasts which constitute 90 per cent of the cells of loose connective tissue. Cortisol seems to diminish fibrillogenesis and inhibit fibroblast multiplication. Apparently the main site of cortisol metabolism seems to be the fibroblast.

A thesis that alteration of the elastic tissue bed of arteries is an age dependent precursor of human atherosclerosis is developed by Dr. Lansing.

The cholesterol of ground substance from young connective tissue seems to be influenced by the level of serum cholesterol.

The problem of clot formation is extremely important in relation to myocardial infarction and is covered by several authors, Drs. Ratnoff, Sherry, Astrup and finally Von Kaulla. Astrup's view that a dynamic balance exists in the blood between fibrin formation and fibrinolysis extends Dr. Duguid's view about atherogenesis. Dr. Sherry discusses the same system with great clarity. He suggests the problem in thrombosis is one in which the mechanism for dissolution of thrombi is impaired in patients with degenerative vascular disease. It has even been suggested by others that hyperlipemia may be responsible for the impairment of the normal fibrinolytic mechanism. Sherry agrees with Astrup that the fibrinolytic system is a dynamic one, the changes in activity being mediated by release of an activator of plasminogen into the circulation under great varieties of conditions. He, however, does not believe that circulating plasmin dissolves clots.

Von Kaulla believes it is more logical to utilize endogenous human enzyme sources for fibrinolysis than to administer exogenous plasmin. Human urine contains urokinase which activates plasminogen. Many other substances can affect the fibrinolytic response such as the protein free lipopolysaccarides. Dr. Von Kaulla also believes that an effectively controlled activation of the fibrinolytic system will turn out to be a better prophylactic and therapeutic method to produce thrombolysis than resort to exogenous enzymatic material.

The last chapter in this fascinating book is by Dr. Gitlin who showed that fibrinogen in the steady state is present half in the vascular system and half in the extracellular fluid. Although he did not find fibrin as a component of normal tissue it was found in the intima of the renal arteries of a child suffering from polyarteritis, in the coronary artery of a patient with rheumatoid arthritis as well as in vascular thrombi.

It is clear from what was said above that the book deals with the basic mechanisms involved in atherogenesis. Whether fibrin is primary in the genesis of atherosclerosis or a participant in the final blow of myocardial infarction there can be no question of its supreme importance.

The book is directed to experimenters in the basic sciences and clinical medicine and would not probably be easily grasped by the practicing clinician.

HEALTHIER LIVING by Justus J. Schifferes, Ph.D., John Wiley & Sons, Inc., New York 16, N. Y., 928 pp. $6.75.

Reviewed by Denis S. O'Connor

Basic knowledge of a machine would seem to be the most important thing for the mechanic to know and certainly such knowledge by the owner of the machine should be conducive to a better degree of intelligent care for the machine.

The possessor of the human machine, the finest machine known, and on which much money is expended on development and education is usually very uninformed about himself and all too often acquired knowledge is far from accurate and acquired from biased sources.

To be sure most schools do have a course in physiology but the antiquated approach does not convey an understanding of the human body, its functioning and its reaction to physical and mental irritants which the informed individual must have if he is to keep his body and mind in the optimum condition and for the longest period of time possible.

It is good, therefore, to find a book which is a text book for lay understanding of the human machine and its problems which could be read to advantage by anyone who is interested in an accurate understanding of his own body.

The book is divided into five parts—orientation, education for family living, mental health, personal health and community health with numerous subdivisions.

It would require considerable space to adequately review all phases of this book but the division of education for family living alone, so sanely presented, should be obligatory for every adolescent.

This book is highly recommended for lay reading but especially for young people, with young healthy bodies and minds, who are interested in getting the maximum value out of that body over the longest period of time.

MASTER YOUR TENSIONS AND ENJOY LIVING AGAIN by George S. Stevenson, M.D. and Harry Milt, Prentice Hall, Inc., Englewood Cliffs, N. J., 241 pp. $4.95.

Reviewed by Denis S. O'Connor

While it is of doubtful wisdom to treat oneself, a little knowledge combined with a small amount of common sense could put one on the right road to health, mental and physical.

The strains of living at the present time are such as to create tensions, the existence of which may not be fully obvious to the person involved. A recognition of such a state and of the means whereby those tensions might be lessened or dispersed is highly desirable.

This book does point out the symptoms indicating tension and devotes a major part of the book to outlining the means of reducing those tensions.

It could be called a "do it yourself" psychoanalysis and certainly most people at some time need to analyze the difficulties of personal relationships to avoid serious family or business clashes.

The book is easy reading and the plans for reduction of tensions are practical if one has the desire to correct difficulties once they are recognized. This book can be recommended for the person who would be interested in knowing about mental problems before they arise or for the person who finds himself in difficulties with his associates and has the insight to recognize his own contributions to those difficulties.

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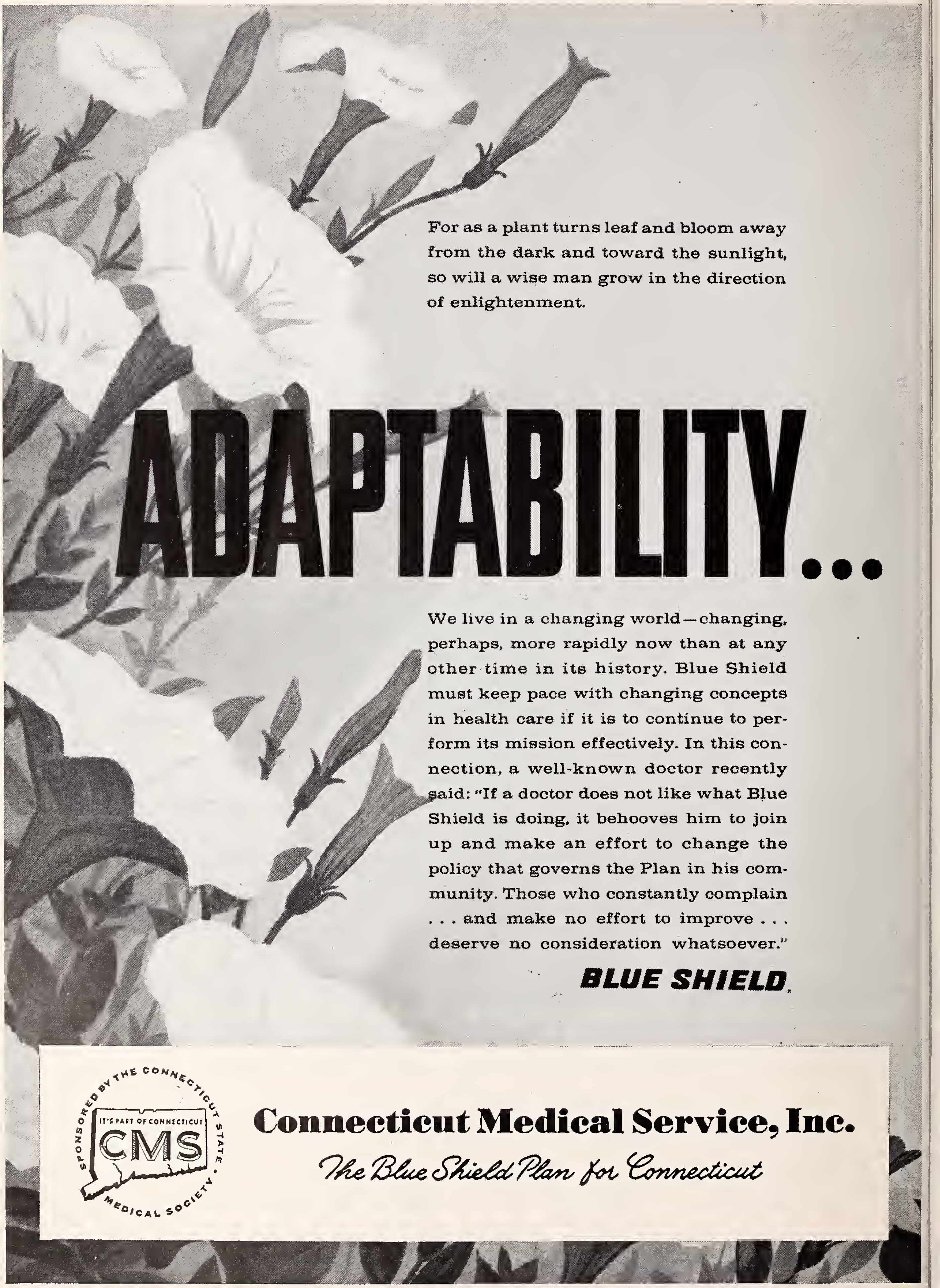

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1959 - 1960

(Concluded)

REPORT OF THE COMMITTEE ON POSTGRADUATE EDUCATION

This committee has broadened its activities during the past year. In addition to arranging the annual Connecticut Clinical Congress, a symposium entitled "Problems of Graduate and Postgraduate Education in the Community Hospital" was held in New Haven on January 13, 1960. The symposium was planned by this committee but was sponsored and financed jointly by the Connecticut Hospital Association, the Connecticut State Medical Society, and Yale School of Medicine.

In planning this symposium the committee was faced with the decision of either limiting the discussion to some specific aspect of the hospital educational program or attempting a broad survey of the subject. We chose to do the latter because we looked upon this as an exploratory step and hoped that additional symposia dealing with particular problems in more detail might be possible in the future. Announcements of this special symposium were sent to the director of medical education, chief of staff, administrator, and president of the board of trustees of each hospital in the state. Attendance numbered 82 in spite of a snow storm on the day of the meeting; 58 of those attending (43 physicians; 15 others) were from Connecticut, and 24 (20 physicians; 4 others) were from out of state.

The program stimulated lively discussion and many questions from the audience. Members of the committee who were present felt that this had been a successful endeavor. There is obviously considerable interest in the problems of hospital educational programs. As a result of the experience with this symposium, the committee favors the planning of a similar program on some aspect of postgraduate medical education in the community hospital to be held next winter.

The 34th Connecticut Clinical Congress was held at the Yale-New Haven Medical Center on September 30, 1959. Total registration was 309 (224 members; 85 non-members and guests). Although some speakers attracted a large audience, it should be noted that several sessions had embarrassingly sparse attendance. However, upon reviewing the 1959 program, members of this committee felt that the Clinical Congress was a worthwhile postgraduate educational program and that the attendance justified its being continued. Therefore, the committee recommended that a similar one-day program be held in 1960. Because of the possible advantages of shifting the site of the meeting on alternate years, it was further recommended that it be in Hartford. These recommendations were accepted by the Council, and the 35th Connecticut Clinical Congress will be held at the Statler Hotel in Hartford on Wednesday, September 28, 1960.

Respectfully submitted,
Arthur Ebbert, Jr.

REPORT OF THE COMMITTEE ON HOSPITALS

The Committee on Hospitals has held seven meetings during the year, three of which were joint meetings with the Council on Professional Practice of the Connecticut Hospital Association. Drs. W. G. H. Dobbs of Torrington and Michael Shea of New Haven resigned from the Committee. The Council appointed one new member, Dr. Charles W. Chace of Middletown. On June 3, 1959, your Chairman was invited by Dr. William A. Wilson, Chairman of the Committee on Public Health of the State Medical Society, to be present at a meeting of the Advisory Committee on the Control of Staphylococcus and other hospital acquired infections. Many facets of the subject were discussed which suggested that a progressive educational action should be made towards promoting information for control of infections in all fields of medicine.

The Committee meetings have been well attended and current subjects and problems were meticulously discussed such as emergency room treatment, hospital costs, substitution of generic names for brand names of drugs, cost of drugs, progressive patient care, position of CSMS and CHA on staff appointments, hospital utilization of insurance and ethics of surgeons' assistants' fees. Dr. Trifari gave a brief report of the activities of the Poison Information Center and indicated an effort of the committee to spread lay information regarding the accidental taking of poisons.

A few cogent details concerning the subjects discussed will display their value to the members of the Connecticut State Medical Society. It was elicited that emergency room treatment was uneconomical by a sizable red figure, because of the inability to collect for services. The reason for the current popularity of emergency treatment in the hospital is alleged to be due to the inaccessibility of doctors in their private offices and the immediate care of emergency cases in the hospital emergency rooms. It was suggested that two actions might be taken to meet the problem: (1) limit the types of cases to be treated in the hospital emergency room, and (2) to publicly urge all physicians to care for such emergency cases as seemed justifiable in their offices.

Hospital costs were considered to be composed of two parts: the hospital costs per se and the physician's fee. In this period of inflation the hospital costs (Brown) have arisen 300% while the physician's fee only 60%. The large hospital costs are due to the more intricate procedures required for diagnosis and the high cost of labor. The committee felt that it was at the present time impossible to reduce hospital costs and that the costs would continue to rise. The only current view was to place hospital utilization under insurance.

The Committee passed the following resolution concerning substitution of drugs: *Resolved: That substitution of generic for brand name drugs should be permitted only under the approval and supervision of a committee of the medical staff.* It is noted that in certain Connecticut hospitals the following information is already printed on each order sheet —"where a non-generic drug is ordered any reliable brand may be substituted."

The problem of surgeons' assistants' fees is presented to the Committee. The term "fee-splitting" used by the American College of Surgeons weighed against a just and equitable distribution of monies between the surgeon and his assistant for services rendered demands further consideration.

Respectfully submitted,
Clyde L. Deming

REPORT OF THE COMMITTEE ON INDUSTRIAL HEALTH

The revised document "Guiding Principle Related to Occupational Medicine," was approved by the House of Delegates of the Connecticut State Medical Society during their 1959 meeting. The committee after much discussion considered publication of this document in pamphlet form. However, it was decided to table this project until after pertinent American Medical Association deliberations and developments.

It was with regret that the death of Dr. Daniel F. Levy was announced to the committee. Dr. Levy, a lifetime member of the committee on Industrial Health died June 13, 1959. His loss will be felt keenly by the members of the committee.

Dr. Richard J. Hinchey was nominated by the committee to receive the Governor's award for the physician having made the outstanding contribution to the physically handicapped. The committee's recommendation was endorsed by the Governor's Committee on the Employment of the Physically Handicapped and Dr. Hinchey is to receive his award at a future date.

Regarding the Relative Value studies, the Committee on Industrial Health decided that their committee would not take an active part in formulating a nomenclature in Industrial Medicine since we are essentially concerned with Preventive Medicine and did not actually practice on a fee for service basis. It was felt that any procedures in our field would be covered by the other Specialties.

Dr. William Stahl of Danbury submitted a letter of resignation during the year. The vacancy created by Dr. Stahl's vacancy was filled by the appointment of Dr. Roger Conant.

The last meeting of the committee on Industrial Health was held jointly with physicians interested in Industrial Medicine. Speaker at the meeting was Dr. Butler, Medical Director, Scoville Manufacturing Company. He discussed medical care and insurance program in his Plant.

In the future, meetings of the Committee on Industrial Health will be held held to coincide with educational meetings of the Connecticut Occupational Medical Group.

Other pertinent business handled by the committee included inquiries from physicians concerning the practice of Industrial Medicine in the state, job opportunities, review of legislative changes resulting from laws passed in 1959 and dissemination of information important to the members of the committee and others.

Respectfully submitted,
J. Howard Johnston

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND LICENSURE

(Calendar Year of 1959)

The Connecticut Medical Examining Board is the Society's Committee on Medical Education and Licensure. Following is the official report of the Medical Examining Board for the year, 1959.

In January, Governor Ribicoff appointed Edward Resnik, M.D., to a five year term on the Board. Dr. Resnik has proven himself a dutiful member, willingly entering into the responsibilities of the Board. Dr. Hastings and Dr. Weld attended the meeting of the Federation of State Medical Examining Boards and the Conference on Medical Education and Licensure held in Chicago in February.

In November, Carl E. Johnson resigned from the Board because of ill health. The Board submitted the name of Joseph A. Fiorito of New Haven to the President of the Society to fill unexpired term of Dr. Johnson and to the Council of the Society to succeed himself on the Board for the term of 1961-1965. This name was approved and in both instances was nominated to the Governor for his appointment. Stanley B. Weld was selected by the Board in February to succeed Creighton Barker as Secretary to the Board.

Three regular meetings as required by the Medical Practice Act and one special meeting were held during the year. One physician was recommended to the State Department of Health for suspension of license for three months because of misappropriation of funds. The suspension was carried out.

Four hundred and one persons were certified as eligible for licensure by the following methods: certified by the National Board of Medical Examiners—201; certified by endorsement of licenses issued by twenty-three States—53; certified on the basis of written examination—147. Two hundred and fifty-four individuals took the written examinations and of these 106 physicians and 1 osteopath failed. Of the total written candidates, 130 were petitioners and of this number 67 passed and 63 failed. Of the total number of petitions received during 1959, 26 are still pending and 138 have been approved but have not taken the examinations. One hundred and eight requests have been received by the Board but have not as yet been returned in completed form.

Respectfully submitted,
John D. Booth

REPORT OF COMMITTEE ON PUBLIC HEALTH

The Committee on Public Health meets at the office of the Society on the second Thursday of each month. During the last year it was evident to your Committee that the fields of public health and preventive medicine continued to grow in breadth and depth. It became even more apparent that the State and County Medical Societies must maintain and increase their constructive efforts and effective contributions toward improving community health.

The Committee lost three long time friends and members during 1959 due to retirement or resignation, namely, Doctor Stanley Osborn, Doctor Ira Hiscock, and Doctor Robert Keeney. The Committee gained three new friends and members, Doctor Franklin Foote, Doctor Edward Cohart, and Dr. Robert Green. Their presence and interest has been effective and helpful.

The Committee on Public Health has a functional and organizational structure by which each active member has special areas of public health interest and assignments. There are also conference and planning units. The Committee also has formal advisory committees whose members are authorities and actively interested in their respective fields.

The members of all the Committees here reported have served you and your Society well in counseling, in planning, and promoting proper and worthwhile programs in the field of public health. The long established close and understanding relationship with the State Department of Health continues and I believe will be expanded to further promote the health needs of our communities. The Connecticut State Department of Health by action of the 1959 Legislature is being reorganized and expanded. The committee structure of the State Society in the fields of public health is being reviewed to ascertain if we are as effective as we should be.

The Council, the General Manager, and the administrative staff of the Society have contributed materially to making this year a pleasant and effective year of accomplishment. The detailed minutes of the Public Health Committees are on file in the office of the Society.

There are certain items of business that we feel should be recorded in this report.

The Committee is sorry that the pamphlet on Staphylococcus and Other Hospital Acquired Infections has not been made available but editing and publication difficulties arose and caused a delay in the completion of our plans.

Physical evaluation of the adult and child is progressing and plans for early detection of inborn metabolic disorders are moving forward.

The Crippled Children Program in its many aspects has been given consideration in order to improve the care and flow of cases. Leukemia and other malignancies of childhood are now included in the crippled children program and services.

We have not progressed as we want to in planning for the deafened child and the child with speech defects.

In the field of nutrition, material progress has been achieved. Interest in good nutrition is being stimulated. Fads and fallacies are being debunked.

School Health has received continued emphasis and consideration. A fine Conference for Athletic Injuries has been planned.

Policies and standards of Maternity Homes, Visiting Nurses, and Well Child Conferences and other submitted data were considered and acted upon.

Poliomyelitis programs for Salk Vaccine and live virus studies received the support of the Committee.

The Connecticut Pilot Study for Physicial Evaluation of Automobile Drivers (a selected group) received the approval of the Council with the recommendation that all physicians cooperate in the program.

Study and planning units are at work in many other fields of public health, such as scanning procedures for infectious and epidemic diseases, immunization procedures, full time health units and health officers, health services in the state of Connecticut, early testing procedures for tuberculosis, x-ray and environmental hazards.

The Committee is not satisfied with the public health aspect of Civilian Defense.

The Committee feels that a real break through in our communications to the County Societies and the practicing physicians is possible if County Units are established to work in the areas of public health, preventive and industrial medicine as suggested in our recent communication. Litchfield County has notified us of their interest and the establishment of such a committee. It is the hope that a two way street can be established between the County Committees and the State Public Health Committee in order that we can work in a mutual effective way.

The Public Health Committee now receives news and press releases from the United States Public Health Service and the United States Department of Health and Welfare.

The Committee on Public Health again requests consideration that its name be changed to the Committee on Public Health and Preventive Medicine.

Respectfully submitted,
William A. Wilson

REPORT OF THE COMMITTEE ON STATE LEGISLATION

The 1959 Session of the Connecticut Legislature is history now and the overall effect on Connecticut medicine has been more on the favorable than unfavorable side.

To summarize on some of the important bills: Senate Bill No. 307 "Clarifying the definition of chiropractic" which sounds benign, but had malignant implications, was a very important measure that your Society and Committee opposed successfully. The bill passed the Senate as had been anticipated but was vigorously and successfully defeated in the House. However, this will undoubtedly not be the last of such type proposals so constant vigilance in the future legislative sessions will be necessary.

Even at this moment a question of the rights of podiatrists (chiropodists) to prescribe drugs for the relief of pain and the prevention and control of infection (of the feet) i.e. antibiotics, etcetera has been brought up with the Connecticut Podiatry Association claiming the present laws do not forbid such rights to them and have been advised by their legal counselor that they may legally use pain and infection reducing drugs in connection with the surgery of the feet permitted by the State statutes. Since we all know the use of antibiotics, for example, usually entails general systemic involvement presumably and therefore is not limited in effect to the area defined by statute and because of the known hazards of the indiscriminate use of antibiotics and other drugs in untrained hands, your Society feels that it is not in the best interest of the people of Connecticut to let this interpretation of the law go unchallenged. At present, representatives of the Connecticut Podiatry Association and the Connecticut State Medical Society are meeting in an effort to resolve such differences without rancor, with your Society believing in the absolute necessity of maintaining the high standards of medical services as presently practiced in Connecticut. As yet, no satisfactory solution to this difference of opinion has been found but it would seem to this writer that had the Legislature intended that antibiotics, narcotics, steroids or corticosteroids, for example, be used by podiatrists who are not qualified by training that it would have clearly provided for such use in section 20-50 of the General Statutes of Connecticut which were revised as late as 1958 in its definitions of chiropody.

There were many bills concerning Workmen's Compensation, and the medical aspects of these were followed closely by Chairman Dr. John Kilgus and his Committee on Industrial Health and the final record shows a very creditable effect by this Committee.

A bill concerning reorganization of the Connecticut State Department of Health was adopted after compromise provisions made it more acceptable. At this point it should be mentioned that Connecticut medicine owes a tremendous debt of gratitude to Dr. Stanley Osborn who for over twenty-five years did a herculean job as the Chief Health Officer of the State of Connecticut and who played such a large part in helping to raise the standards of medicine and its allied fields to its pre-eminent spot today. His successor, Dr. Franklin Foote, the present Commissioner of Health, has ably shown his desire to continue this fine work and we are forunate to have him carrying on where Dr. Osborn was forced to leave off.

There were some literally "crackpot" bills presented to the Legislature in 1959 but the Legislators wisely rejected or nullified these.

On the debit side, fluoridination of public water supplies was lost in the 1959 session as was a bill to provide for adequate and effective autopsy service and medico-legal consultant services to coroners, medical examiners, police and prosecuting officials. (Also bills to provide for use of chemical tests for intoxication as evidence in prosecution of drunken driving.) House Bill No. 2152 or Senate Bill No. 332.

This type of legislation the Society must work more vigorously for in the next sessions of the Legislature (in 1961) as well as requesting that a thorough study be made on the feasibility of establishing a medical and dental college either on a state or regional basis.

Now as never before Connecticut medicine must come up with a positive and progressive program of its own, aggressively and intelligently carried through if it isn't to find itself on the defensive and constantly appearing to be against something rather than for it which in itself is a handicap and certainly does not make for good public relations or understanding. Let us accentuate the positive in the future.

Lastly, the Chairman and the Committee on State Legislation wishes to thank the President and Officers of the Connecticut State Medical Society, the Managing Director and his very efficient staff, the Society's Council and the other Chairmen of the Society's Committees for their splendid cooperation and without whose help this Committee could not function adequately.

Respectfully submitted,
Clifford W. Mills

REPORT OF THE COMMITTEE ON PUBLIC RELATIONS

The public relations activities sponsored by the Committee this year have been aimed toward closer liaison with local associations.

As each project has developed, this factor of local implementation has shown increasing importance. Through the Connecticut Health Careers program, now supervised by an independent committee, members of the Woman's Auxiliary are working in many communities to acquaint high school students with various opportunities in the health occupations. The response from students has been highly encouraging. A salutory public relations effect has reached not only students but also educators, parents, newspaper personnel and the voluntary health agencies cooperating in the program. Our Committee has assisted as intermediary with the Chairmen of County Public Relations Committees on the project.

The state-wide program of legislative communication which has been developed in connection with Forand-type and other medical legislation also proves the value of local implementation. Through this program Senators and Congressmen, while they were at home between sessions of Congress, have participated with physicians in evaluating legislation. The program is being continued with additional meetings and transmittal of legislative information to medical leaders through the State. In Fairfield County a pamphlet was developed, 100,000 copies of which are being distributed through doctors' offices.

The principle of local support is basic in developing an effective program of medical public relations and communications. Local medical associations now have within ready access powerful forces which under active medical leadership can contribute invaluable assistance. Among these forces is today's American Medical Community which includes hospitals, institutions, health departments, paramedical personnel, pharmacies, voluntary health agencies and community organizations with active health programs. The personnel thus involved constitutes a medium of high potential for understanding and advancing the causes of medicine. Local programs of this nature, coordinated with state and national programs, can now provide the strongest defenses ever available against government intervention in medical care.

In this connection, one of the Committee's most important programs is to encourage liaison at the local level with newspaper editors and writers. Many of the problems of today are so complex that considerable study must be devoted them for clear understanding. This is especially important for those who may be called upon to write about important issues which have suddenly appeared in the daily stream of news. If these writers are informed on these issues through a program of local liaison it is obvious that they can present sounder views than if they lack knowledge about the subject. Attempts are being made to have readily available a source of additional information if questions arise. Of course, much information is supplied to them from state and national levels, but a local program can further these efforts substantially.

In order to encourage unbiased and accurate reporting and commentary of medical activity both political and scientific, the Committee on Public Relations has studied the Anson-Jones type of awards in Texas. As a result the Committee is planning to offer a plaque or certificate, with or without a cash prize, to one or more deserving writers.

Again developing the line of contact between state and local territory, all Health Directors were sent material to outline the state policy on administration of polio vaccine.

The Public Relations Department in the Society's headquarters has changed its operations in order to reduce administrative tasks and permit more time for program planning, field work, and cooperation with other Associations in matters of mutual interest. Certain administrative duties which the department had assumed by request of the Council have now been transferred by Council directive to the Society's administrative office. These activities comprise those of the Committee for the American Medical Education Foundation, Committee on Medical Care of Veterans, and the Connecticut Health Careers Committee. Another phase of the reorganization includes the assumption of additional duties in developing Communications programs for certain committees and for the Society's headquarters and governing bodies.

The Committee continues to sponsor a number of productive programs in community relations and services. These have been continued through the state office and are briefly set forth as follows:

NEWSPAPER RELEASES

Thirty-seven releases were prepared for Connecticut's daily and weekly newspapers during the year and all of these received wide publication. In a number of instances these releases encouraged favorable editorial comment. The releases were also submitted to radio and television stations and to professional and other publications at state and national levels. A great deal of information also was obtained to answer telephone or mail requests by newspapers and other publications.

EDUCATIONAL MATERIAL

A large number of pamphlets and other published material concerning health care and medical economics were distributed in response to requests from agencies and individuals. An extensive number of these also were used in connection with the legislative and information programs on problems of the aging and other matters of current interest. A larger number of these publications were distributed through physicans' offices than at any time in several years. Service type publications continue to be highly popular. These include the Emergency Medical Card, Family Health Record, First Aid Chart, and the Emergency Call Plan publications.

HEALTH COLUMN

This column is now in its 12th year of publication and is written for Connecticut's 52 weekly newspapers. It has proved popular with the rural and suburban press and helps to maintain a sound relationship with them.

In addition to this column, a special series of three articles on medical practice and concepts and medical legislation, furnished by The American Medical Association, were presented for publication in weekly newspapers.

RADIO AND TELEVISION

Two new radio series were presented to stations in Connecticut during the year. One of these, "Medical Milestones" was produced by the American Medical Association and portrayed episodes in the history of medicine. The other series, "Highroad to Health," is being presented by the National Broadcasting Company in cooperation with AMA and state and county medical associations.

There was active participation during the year in programing of educational telecasts of the Connecticut TV Committee for Health Education, of which the Society is a charter member. These programs were produced over a 12-week period from the studios of WTIC, Channel 3.

HEALTH EDUCATION FILMS

This service is now operated under contract with Rockwell Films, Inc., of Hartford. Films were provided for more than 100 programs sponsored by community organizations and schools and some of these were obtained through the AMA regional film library in New York. Films on health careers and nutrition took first place in popularity.

SPEAKERS BUREAU

Approximately 15 programs with speakers were arranged upon request of local and state organizations. A number of other requests were referred to county associations for completion of arrangements.

In several instances films were furnished for speakers and in other cases both films and projection service were provided. Pamphlets pertinent to each program were also furnished for audience distribution.

EMERGENCY MEDICAL CALL PLANS

Counseling and field services were furnished to assist in the improvement of several emergency call plans operated by local medical associations. Feature articles concerning the plans were published in the *Hartford Courant*, the *Hartford Times* and the *Bridgeport Post.* These resulted in receipt of hundreds of reader requests for the emergency call leaflet and card published by the Society. These explain operation of the plans and list their telephone numbers.

EXHIBITS

Five new exhibits were designed for use at a dozen country fairs in a program sponsored by the Committee on Rural Health and the Woman's Auxiliary. These were devoted to immunization programs for polio and tetanus and proved highly popular. Estimated attendance at the Fairs exceeded 150,000 persons and thousands of informational leaflets were distributed to fairgoers.

A new exhibit also was prepared for emergency call plan operations and a number of display panels were designed to provide information concerning projects of the Society for committee and organization programs. The Committee has been active with some other ideas too.

SPORTS INJURY

Much ground work was done on the subject of sports injuries at the high school level. It was then discovered that the School Health Committee was interested in the subject. All material was turned over and full cooperation given to the Committee. The first Connecticut Conference on Athletic Injuries, put on by that Committee and the state departments and associations in health and education, was scheduled for April 2, 1960.

COMMITTEE REPORTS

A check list was submitted to the General Manager for committee reports. It was also requested that the report be approved by the Committee members or that a minority report be also presented.

COMMUNICATIONS WITHIN THE SOCIETY

There was free communication and proper cooperation with committees of the Society on legislation, health careers, etc. Attempts were made to establish a closer relationship with the Council. Some progress was made. Minutes of two meetings were received and the Council seemed interested in investigating the possible use of a lobbyist. It is hoped that the executive and the public relations groups will progressively work more closely.

In summary, the Committee is helping to inform the public, promote better relations with radio, TV and press, cooperate with other committees and the Council, and act as messenger and big brother to county and local public relations committees.

Respectfully submitted,
E. Tremain Bradley

REPORT OF THE CANCER COORDINATING COMMITTEE

The Cancer Coordinating Committee has had a productive year. There were two meetings of the entire committee and four of the executive committee. The attendance at the entire committee meetings has continued to be small and it may be due to geographic distribution of the members and inability to choose the proper date for everyone. It was suggested that the membership be decreased but this could not be a proper action. The executive committee has had good attendance at its meetings and it has been in active contact with the entire committee.

As in the past, this committee has assisted the Connecticut Cancer Society in implementing a very worthwhile program. The people of Connecticut look forward to the supervision which the Connecticut State Medical Society exerts on the activities of the Cancer Society. In turn, the Cancer Society welcomes and appreciates the help and cooperation which the Medical Society offers through this committee.

The retirement of Dr. Matthew Griswold took place this year and Dr. James Hart of the State Department of Health will replace him. "Matt" Griswold has been an integral part of this committee and he will be missed. The chairman of this committee has been working with "Matt" for 20 years and during this period he has helped build up an internationally famous Tumor Registry as well as a good functioning group of Tumor Clinics. This committee extends to Matt its sincere appreciation for his services and wishes him good luck on his retirement.

The Cancer Teaching Day has been abandoned this year. This exercise has been very carefully studied and after 2 years of close scrutiny it was decided to discontinue it for this year at least. The money ordinarily expended for this exercise will now be used to subsidize consultants who may be called by any of the Tumor Clinics. It is felt that a much more effective program of professional education would be created by this method.

The chairman wishes to thank all members for their cooperation in this year's work.

Respectfully submitted,
William Mendelsohn

REPORT OF THE COMMITTEE ON MENTAL HEALTH

There have been a number of changes in the mental health picture in the State during the past year. The 1959 Legislature passed a number of acts changing the organization of the relationships of the Commission on Alcoholism which was placed directly under the Department of Mental Health. The Legislature also enacted a bill which placed the responsibility of the program for mental retardation directly under the State Department of Health. The legislature also passed acts which changed the geographical structure of the Maximum Security Treatment Center so that the diagnostic part of the center can be connected with a Mental Health Center to be developed in association with the Yale Medical School in New Haven.

The Legislature also enacted a number of bills relating to the commitment of patients and to the financial responsibility of relatives for patients in State hospitals. With regard to the emergency certificate by virtue of which patients may be hospitalized for a period of 30 days, this period may now be extended for another 30 days provided a petition has been made to the Probate Court having jurisdiction for commitment of the patient. Another important change also enacted was the transfer of responsibility for initiating commitment from the Welfare Department to the Department of Mental Health. This will cut considerably the red tape which has hitherto resulted in large numbers of patients being committed through Probate Court. This number of commitments has risen because of the necessity to initiate proceedings very early in the hospitalization of the patient at a stage when the patient is not able or willing to sign in voluntarily. It is anticipated that the number of voluntary patients in the State mental hospitals will rise rapidly as a result of this change.

The Committee has concerned itself this year with the problem of narcotic addicts in the State and with the laws relating to addiction and to the pushers of narcotics. The 1959 Legislature has made modifications which are more and more in line with progressive psychiatric thought in the prevention and treatment of addicts. The punitive aspects of the law will be confined to pushers and sellers of narcotics rather than the addicts themselves. In addition, the courts are authorized to commit addicts to the custody of probation officers or to State mental or other hospitals for treatment. The Committee met with Mr. Robert C. Grieb, Chief of the Narcotics Control Section of the State Department of Health, who discussed the attitudes and procedures of the State Department of Health regarding addicts in Connecticut. The number of addicts has increased considerably during the last few years, very possibly because of better control-measures increasing the number of known addicts rather than the absolute increase. The Committee discussed various ways the abuse of narcotics could be controlled such as punitive measures; and the need for distinction between the pusher and the addict; and the so-called "British System" of physicians prescribing narcotics for addicts who are able to lead a useful life providing they are maintained on minimum dosage. Various social and cultural differences between Great Britain and this country were considered as were the methods of control and enforcement. Consideration was also given to the differences in the varying social groups within a Connecticut community. Thus, for example, in the north end of Hartford, addiction, petty theft, and other offenses are considered almost normal and are not regarded with abhorrence as in other social groups. The Committee is continuing its study.

Much interest has been generated in the last 2 to 3 years throughout the country on the psychiatric education of general practitioners in order to equip them to handle various types of emotional problems which constitute a fair part of their practice. A number of programs have been set up. Two have been given in Hartford sponsored by the Hartford County Chapter of the American Academy of General Practitioners and the Institute of Living, and another course has been given in New Haven. There are currently a number of plans to develop this type of educational program for the general practitioners throughout the State.

During the past year there has been increasing interest in the problem of industrial mental health. Two all-day conferences have been organized in the past year, one by the Connecticut Association for Mental Health in New Haven, and the other by the Connecticut Mutual Life Insurance Company in Hartford. It is clear that many industrialists have become interested in the problems of mental health as it affects employees. The Hartford Psychiatric Society has already held a meeting with regard to the possibility of developing an industrial mental health clinic in the Hartford area.

The Chairman wishes to thank the members of the Committee on Mental Health for their help and cooperation during the past year. Appreciation must also be expressed for the help and assistance of Dr. William R. Richards, General Manager of the Society and to Dr. Ellwood C. Weise, Sr., President.

Respectfully submitted,
John Donnelly

REPORT OF THE COMMITTEE ON AGING

This has been a busy year, particularly because of the planning on a national, state and local level for the White House Conference on Aging to be held in Washington in January, 1961.

Because of the number of organizations which are now concerned with the health problems of the aging, the Committee decided to invite representatives of the Connecticut Hospital Association, the Connecticut Association of Chronic and Convalescent Hospitals and the Chairman of the Committee on Aging of the Connecticut State Dental Society to meet with the Committee during the year. This group was able to meet and discuss problems of an overlapping nature and to make recommendations which are placed before the House of Delegates in this report. The AMA urged that in each state a formal State Joint Council consisting of representatives of the Medical Society, Dental Society, Hospital Association, and Chronic and Convalescent Hospitals be set up. This Committee felt that inviting representatives from these organizations to meet with them provided a much better working basis to develop concurrent studies.

Among the proposals which emerged from these joint meetings were the following:

(1) Many patients in convalescent nursing homes could benefit considerably by the provision of physical-medicine services either directly through the Welfare Department or by the Welfare Department engaging consultants in rehabilitation and in nutrition to work with the staffs of the nursing homes to educate them in the better management of patients in these areas.

(2) With the advent of tranquilizing drugs, many older patients who in the past would have to go to State hospitals could now be handled in nursing homes and this does, and would even more, relieve the load on the State hospitals.

(3) Many difficulties are experienced when older patients are transferred from one facility to another; for example, from a hospital to a nursing home or from one hospital to another hospital. The patients in these circumstances are sometimes subjected to repeated physical examinations and services which may have been provided as recently as five to seven days previously. Thus, when patients are sent to nursing homes from a general hospital or a State hospital, much better care could be provided for the patient if the patient were accompanied by a copy of the hospital records or the hospital forms giving pertinent data about the patient, in much the same way as when the patient is referred from a hospital to his own physician. If this could be set up for patients supported by the Welfare Department, the cost of it might well be borne by the Welfare Department but would probably result in some savings.

(4) Many older patients are sent to the outpatient departments of general hospitals. The outpatient clinics are not organized on an appointment basis and, therefore, the older people may have to wait from four to six hours before being seen. This places quite a stress on older people who do not have the tolerance to wait for this length of time. *Therefore, it is strongly recommended that hospital outpatient departments seriously consider some system of appointments, especially for the older patients.*

(5) The medical and paramedical services for elderly persons suffers at times from poor communications between various agencies engaged in looking after various aspects of the problems of older people. The Committee together with representatives of the other organizations spent consider-

able time discussing how improved communications might be facilitated.

(6) It was pointed out that the standard of nursing home care could be considerably improved by education in modern attitudes and techniques for the nursing home personnel.

(7) The importance was again stressed of physicians carefully writing in detail specific instructions for personnel taking care of patients in chronic and convalescent hospitals.

A number of meetings were organized throughout the year and representatives of the Committee participated or attended a number of these.

(1) The First Joint Council to Improve The Health Care of The Aged was held in Washington, D. C., June 12 to June 14, 1959. This conference was attended by Dr. Miller who reported the methods by which other states had organized Joint Councils with representatives of related disciplines. He reported that as much progress had been made on a state-wide level as in any other state.

(2) A Regional Conference on Aging at the Hotel Somerset in Boston was held September 16 and 17, 1959. Representatives of many organizations of great variety presented papers, viewpoints and discussions over a two-day period. This was in the nature of a general educational program for those interested in problems of the aging. In addition to the Chairman, Dr. Miller, Dr. Bachman, and Dr. Friedberg attended this meeting.

(3) The Semi-Annual Meeting of the Council of the New England State Medical Societies was held in Boston on November 4, 1959 and was attended by Dr. Miller, representing the Committee on Aging.

The Governor has appointed a 55-Man Advisory Committee for the planning of the State Conference in preparation for the White House Conference on Aging. On this Committee is Dr. James R. Miller who had been nominated to serve as the liaison member with the Governor's Commission on Services for the Elderly. This 55-Man Advisory Committee is made up of individuals who apparently were appointed on a personal basis, although a great many of them hold official positions in organizations such as the Medical Society, Dental Society, Nursing Home Association, Nursing Association, etc. The Commission is studying various aspects of the problems of the aged. A full-time research worker has been engaged by the Commission to work with various State department heads, community leaders, etc. Public hearings are scheduled in a number of areas throughout the State and special attention will be paid to problems such as housing, health care, economics, and to such programs as health insurance for the elderly, preretirement and adult education.

The Chairman wishes to express his deep appreciation of the cooperation and assistance of members of the Committee and to Dr. William R. Richards, General Manager of the State Medical Society, and to the President, Dr. Ellwood C. Weise, Sr., who also have been most helpful to the Committee and who have participated at a number of meetings concerned with the problems of the aging.

Respectfully submitted,
John Donnelly

REPORT OF THE JOINT COMMITTEE OF THE CONNECTICUT STATE MEDICAL SOCIETY AND CONNECTICUT PHARMACEUTICAL ASSOCIATION

The Joint Interprofessional Relations Committee of the Connecticut State Medical Society and the Connecticut Pharmaceutical Association held four regular meetings during the past year. These meetings were well attended by the members of both organizations as well as guests of various state agencies who were invited to present their points of view on special problems.

The past year has brought numerous problems to the attention of the Committee. There were several specific instances of breaches of ethics brought up for discussion and recommendations were made to the local groups for action. It was gratifying to find that problems involving relationships between the pharmacists and physicians concerned were promptly and amicably resolved following suggestions from the Committee.

Other more involved discussions have centered about: 1. The question of supervision of hospital pharmacies. 2. The writing of prescriptions by practitioners of the healing arts by other than M.D.'s. 3. The recent directives from the State Welfare Commissioner. All three of these subjects were discussed in great detail. The problems involving hospital pharmacies is still under consideration and the views of both the State Health Department and Commissioner of Pharmacy are being solicited. A great deal of attention and time has been devoted to the problems of the Commissioner of Welfare. He and members of his department were invited to attend a meeting especially devoted to this subject. This meeting was largely attended and the medical point of view was clearly and forcefully stated both by the members of the committee as well as officers of the Society. Suggestions were made to the Welfare Commissioner as to how departmental directives might receive better cooperation from the medical and pharmaceutical professions. This subject was hotly debated and still remains of great concern to both groups.

The basic function of the Committee as a liaison group continues to be carried out. It is the feeling of the individuals involved that it continues to bear fruit in better understanding and cooperation in attaining the aims of the professions.

Respectfully submitted,
Benjamin Katzin

REPORT OF THE COMMITTEE ON STATE BLOOD BANK

The Connecticut Regional Blood Program is at a crisis.

Victor G. H. Wallace resigned shortly after the last report to this Society. His successor as medical director of the Connecticut Regional Blood Program resigned in January 1960. This committee is now searching for a new director.

This committee feels that the director should be primarily a medical-administrator and until the present procurement problems are resolved, secondarily a person interested in the medical research aspects of the problem.

Such activities as rare type cell paneling, cross-match problem referrals, and others are reaffirmed as desirable and necessary.

R. E. Kendall, R. E. Nicholson and J. E. Thayer were selected by the committee to interview candidates, to review their qualifications, and to recommend candidates to the Regional Blood Center.

The Connecticut Regional Blood Center is to be located at 100 Farmington Avenue, Hartford 5, Conn. The move to the new location should take place during the current calendar year.

Open Heart Surgery has added problems to recruitment. This committee recommended that, "Blood donors for open heart surgery in any Connecticut Hospital shall not be reserved for a particular operation beyond what is a reasonable time. Such time is not to exceed a two month period."

Your committee is trying to develop the blood program in this state so that it will be second to none. We respectfully ask the full support of this society.

Respectfully submitted,
John E. Thayer

REPORT OF THE COMMITTEE TO STUDY MATERNAL MORTALITY AND MORBIDITY

The Committee to Study Maternal Mortality and Morbidity of the Connecticut State Medical Society held six regular meetings during the calendar year 1959, all of which were well attended.

There were no open meetings during this period.

The provisional maternal mortality rate for 1959 is 2.7 per 10,000 live births. (15 maternal deaths reported to the vital statistics section, state department of health.) The maternal mortality rate for 1958 was 2.3 per 10,000 live births. (13 maternal deaths reported.)

Number of deaths among women who were pregnant reviewed by the committee (some of these cases are from previous years)	19
Deaths due to non-maternal causes	5
Deaths due to maternal causes	9
Unclassified (decision deferred)	5

A five year report on maternal mortality in Connecticut entitled "Maternal Mortality in Connecticut, 1951-1955" by Clarence D. Davis, M.D., Carl E. Johnson, M.D., and Gontran Lamberty, M.A., was published in the December issue of *Connecticut Medicine*.

Discussions with the help of invited physicians were held on a number of subjects including influenza and pregnancy and the use of influenza vaccine; the use of pelvimetry and chest X-ray with special reference to radiation hazards; the use of pitocin induction and stimulation.

Because of its interest in the care given to prenatal patients in clinics. the committee recommended that the maternal and child health section of the state department of health make a study of the prenatal clinics in Connecticut. The study is now being carried out and the findings will be reported to the committee for its review and recommendations.

The committee has been also concerned with the greater use of obstetrical consultants especially where no such consultants are on the immediate staff of a hospital.

The "Manual of Standards in Obstetric-Gynecologic Practice" published by the American College of Obstetricians and Gynecologists in March, 1959, was seen by the committee. This presents a wealth of material for use by obstetricians in hospitals.

The subcommittee on Toxemia of the Committee to Study Maternal Mortality and Morbidity of the Connecticut State Medical Society held two regular meetings during the calendar year 1959, both of which were well attended.

Total number of cases of toxemia reviewed	6
Severe cases of toxemia	6
Deaths due to toxemia	0

The subcommittee is in the process of preparing a revised toxemia chart and is interested in preparing a pamphlet on nutrition for the patient with toxemia.

Respectfully submitted,
Hugh K. Miller

CONFERENCE COMMITTEE FOR THE IMPROVEMENT OF CARE OF THE PATIENT

Presidents, executive secretaries and official organ editors of appointing organizations are ex officio members. Mr. Stuart Knox, Executive Director of CHA, acts as secretary.

During the past year the commission has had *two* active committees.

(1) The Committee of Costs of Nursing Education has worked out a standardized reporting form to assist member hospitals in the analysis and reporting of nursing education *costs*. The commission has asked the CHA to include this data in its cost reporting mechanisms and thus provide uniform annual figures for over-all and comparative analyses.

The large fact that has already emerged from this study is the *net* annual cost to the hospitals of this state of their nursing education programs is well over two million dollars. This represents a cost to the average hospitalized patient in Connecticut of $1.50 to $2 per hospital day. Under present methods of financing nursing education, this cost is indeed largely transmitted to the hospital patient. It is hoped that in the next few years a more equitable method can be found to finance nursing education.

(2) The Committee on Future Needs for Nursing has completed a review of "Nursing Needs and Resources in Connecticut." This is an excellent study, copies of which have been distributed to the constituent organizations for action and comment.

The study points out that, although the state's ratio of nurses to population ranks second nationally, nursing needs are not being met. This is particularly true in public health nursing and nursing education. It is also felt that less than half of the public health nurses, less than one-fourth of hospital nurses, and about one-third of the faculty in the diploma schools were not adequately prepared. Nursing needs in the state, in both quantity and quality, are not being met, and these needs are expected to increase in the next decade. Specific recommendations are made at the conclusion of the committee's report.

The Connecticut League for Nursing plans an open meeting for April around this committee's report on the subject of Future Needs for Nursing in Connecticut.

This thoughtful report will be the basis for future studies and recommendations concerning the problem of the nursing shortage, and it is recommended that the governing body and appropriate committee of our society express their reactions to it.

It is felt that the Society's representation on the Joint Commission be continued, since the latter provides an excellent means of exchanging information and working out approaches to the problems that concern the member groups in discharging their respective responsibilities for the improvement of patient care.

Respectfully submitted,
Herbert D. Lewis

REPORT OF CONFERENCE COMMITTEE WITH STATE DENTAL ASSOCIATION

This Committee has continued to hold meetings at irregular intervals throughout the year with a number of members of the State Dental Association, and have discussed informally topics of mutual interest.

Much interest was aroused by the subject of hypnosis, particularly as an agent in anaesthesiology. In fact so much interest that the Conference Committee decided to recommend to the Council that a reappraisal of hypnosis be made by a well qualified person. It was suggested that a member of the staff of the Anaesthesia Department of the Medical School might be interested in the project as apparently a renewed interest in hypnosis as an adjunct to anaesthesia has recently caused wide attention. Of late both professions have been constantly solicited by advertisements offering courses in the subject. This is especially so with the dentists, and a surprisingly large number take these courses involving a considerable sum of their money. The perhaps cloudy reputation in the past of hypnosis puts doubt on whether this expenditure is advisable. It is understood that the Anaesthesia Department would be willing to add a qualified investigator if the proper funds should be forthcoming. Members of the Dental Association offered a firm opinion that funds for such a purpose could be available.

For these reasons the Conference Committee recommends that such a study be given consideration.

Respectfully submitted,
Brae Rafferty

REPORT OF THE COMMITTEE ON PERINATAL MORTALITY AND MORBIDITY

This Committee has not been as active this year as they have been in the past, but the committee members have been at work in their local areas.

The Committee feels that there has been a decline in interest in studying the problem throughout the state and have been held up in their work because of delay in getting the names of local chairmen of the Perinatal Committees. The Committee is pointing its efforts this year towards getting a simple study sheet on which reports of all premature deaths can be recorded and supplied to the Committee.

1. *The Committee recommends that all hospitals in the state where maternity and newborn service is a functioning part of the staff activities have an active Perinatal Mortality Committee.* Several of the smaller hospitals find this somewhat difficult to do, but on the other hand, one of the largest hospitals in the state does not have any committee either.

2. An attempt should be made to get an accurate idea of the causes of perinatal mortality in this state. At present, we are forced to rely too much on generalizations on a national scale or some isolated studies reported from various hospitals.

3. The Committee feels that a Perinatal Mortality Committee of the county medical societies should be formed to help in a consultative manner and correlate the study of perinatal mortality in the hospitals and committees. The county committee could then work more easily with the state committees.

Respectfully submitted,
Roswell D. Johnson

REPORT OF THE COMMITTEE ON ACCIDENT PREVENTION

Since the last annual report, meetings of the committee have been held in May, October and November of 1959, and in January and February, 1960.

The focus of the committee during the past year has been in these three areas:

1. Developing relationships with the county medical association which in turn could develop liaison with community safety committees and councils.
2. Sponsoring or preparing legislation for the 1961 Session of the Connecticut General Assembly.
3. Developing standards for qualifications of ambulance drivers and standards for equipment of ambulances.

Five county associations have appointed physicians to work with the state committee on accident prevention. These physicians are:

Andrew F. Turano, M.D., Middlesex.

Sagar D. Sikand, M.D., Windham.

Harold A. Bergendahl, M.D., New London (in addition to being member of committee).

James M. Cary, M.D., New Haven.

George A. Fowler, M.D., Litchfield.

They have been meeting with the accident prevention committee and have made valuable contributions.

The Connecticut Safety Commission has notified the various local safety committees and councils of the availability of these physicians to assist them and the staff of the Connecticut Safety Commission will encourage the local safety committees and council to call upon these physicians. As the medical aspects of traffic safety, especially, have not been recognized by local safety committees and councils, the usefulness of physicians as consultants to their committees will require interpretation by the Connecticut Safety Commission staff.

LEGISLATION WITH RESPECT TO CHEMICAL TESTS FOR INTOXICATION

The accident prevention committee and the State Medical Society have supported such legislation in the 1959 Session of the Connecticut General Assembly. Legislation was not passed. The committee is still interested in backing similar legislation.

It was felt that the conference committee of the state medical society with the State Bar Association should be appraised of this bill and have some assistance from this committee. Accordingly, representatives of the accident prevention committee met with this conference committee. The legal members of the conference committee were interested and will continue to explore with the accident prevention committee the legal aspects of the chemical tests law toward the end that the legal members might make some recommendations to the State Bar Association.

STANDARDS FOR QUALIFICATIONS OF AMBULANCE DRIVERS AND STANDARDS FOR EQUIPMENT OF AMBULANCES

The possible need for state legislation to enforce minimum standards was discussed at length, with members of the Connecticut Ambulance Association and others. It was the decision of the committee that recommended standards be drawn up for use by the ambulance groups throughout the state, commercial, voluntary and official, and for the committee to work with such groups in trying to implement the recommended standards. In this, the committee is working with the chairman of the Connecticut Trauma Committee of the American College of Surgeons, Dr. Luther Strayer of Bridgeport.

An exhibit is being arranged for the 1960 annual state medical society meeting on motor vehicle injuries in Connecticut in cooperation with the Cornell Crash Injury Research Project.

MINIATURE MOTOR-POWERED MOTOR VEHICLES DRIVEN BY CHILDREN UNDER SIXTEEN YEARS OF AGE

The committee approved in principle the resolution concerning "Racing Events for Miniature Motor-Powered Vehicles," of the Connecticut Safety Commission of December 17, 1959, which deplores motor vehicle racing events and contests involving children under sixteen to drive motor-powered motor vehicles.

Respectfully submitted,
Louis Spekter

REPORT OF THE ADVISORY COMMITTEE ON MEDICARE PLAN

Because of limitations on the Medicare program made effective on October 1, 1958, the past year has been a relatively quiet one. A statistical summary of Medicare activity in Connecticut is as follows:

Claims received	3,094
Claims paid	2,897
Amount paid (net)	$222,577.34
Claims rejected	239
Claims voided (duplicates)	8
Claims returned to doctors (Incomplete forms plus 10/1/58 requirements, i.e., permits, statements, etc.)	1,200
Claims outstanding December 31, 1959	19
Claims referred to State Committee	110
Claims referred to Washington	129

At the last meeting of the annual meeting of the House of Delegates the Medicare Committee was authorized to petition the Senators and Congressmen from the State of Connecticut and all other Senators and Congressmen concerned with the Medicare program, to restore Medicare to its original scope. The response to our letters to these persons was unanimous and sympathetic. Practically speaking the original scope of the Medicare program has been restored as of January 1, 1959 and I feel that the action of the Committee and of the House of Delegates was in part responsible.

One aspect of the Committee's activity during the past year is worth reporting. One physician had submitted several claims for tonsillectomy which he stated was carried out as a bona fide emergency. The Medicare Committee enlisted the aid of the Medical Ethics Committee of the County of the involved physician and with their aid we were able to resolve the problem quite satisfactorily.

It is anticipated that the ensuing year due to the increased scope of Medicare coverage will be a more active one for the Committee.

Respectfully submitted,
Harold M. Clarke

REPORT OF THE COMMITTEE ON INSURANCE AND MEDICAL ECONOMICS

The Committee on Insurance and Medical Economics held a meeting at the New Haven Lawn Club on March 23, 1960. Mr. Allenby Ayr, an agent in Connecticut for the State sponsored plan with the Commercial Insurance Company of Newark was present. The various features of the Connecticut State Health and Accident and the Major Medical Plans were reviewed. The committee has received requests for broader coverage in these areas as well as a group life insurance plan. In order to determine how widespread this demand is, it was voted to hold a survey in the near future. A previous survey was held in 1953 and at that time, the majority of the physicians who sent in their replies voted that they were satisfied with the existing plan. Conditions have changed rapidly in the past seven years and it was deemed necessary to review the situation again. The survey form will soon appear in *Connecticut Medicine*. The committee urgently requests every physician to fill out the form so that it can serve the insurance interests of the physicians of Connecticut at the lowest cost. The committee is also actively considering a retirement plan that will conform with the provisions of the Keogh Bill. Meetings have been held with the Canadian Medical Association Retirement Plan officials and their experience and counsel will be of great value in formulating a Retirement Plan for The Connecticut State Medical Society.

Respectfully submitted,
M. David Deren

REPORT OF COMMITTEE ON CONNECTICUT HEALTH CAREERS

The Connecticut Health Careers Program, details of which have been published in *Connecticut Medicine* appears to be regaining momentum in spite of having met with crushing obstacles in its second full year of operation. Hopes for commencing the school year with a well coordinated series of statewide counselling sessions in conjunction with the Woman's Auxiliary were shattered when, during the summer months, the Council of the State Medical Society declared Health Careers to be outside the sphere of Public Relations and withdrew from the committee the services of the Public Relations administrative personnel with all of their accumulated know-how and well established lines of communication. The resultant failures to fulfill follow-up commitments in regard to student inquiries and to continue operation memoranda constituted one of the worst possible bits of public relations in our experience.

On August 21, 1959, the chairman of the Health Careers Committee was invited by the Public Relations Institute of the AMA to participate in a "Tickets to Community Success" program where Connecticut Health Careers program was acclaimed as one of the outstanding examples of forward-looking Community Service.

Requests to the Council of the State Medical Society for a realistic budgetary appropriation or the privilege of seeking Foundation money to achieve what the Committee felt were basic administrative necessities to carry on this apparently worthwhile program were denied.

Orders from the Council were to decentralize the administrative aspects of the program—to hand them down to the county level. Efforts are being made to provide a county centered operation of this program. The Committee members are sympathetic to the burden which this places upon the Woman's Auxiliary which lacks adequate secretarial staff and equipment as well as funds to finance such.

One step toward county type administration of the Health Careers Program has been to submit names of physicians from each county to the Nominating Committee and to the Council in hope of obtaining representatives in each county and to promote liaison between the policy making committees of the Medical Society and the Auxiliary at the state level with county and community representatives on whom the burden of carrying out the policies will rest.

Although reports for the present year are incomplete, Mrs. Allen, State Auxiliary chairman, has reported to the committee that during the period April 1, 1959, to April 1, 1960, 175 high schools have been contacted; 90 schools have seen the film, "Helping Hands for Julie," which deals with varied health careers. In 75 schools, along with the film, speakers were present, such as a physician, nurse, medical technician, etc., to address the students. Twenty guidance programs were arranged in hospitals, and it is estimated that 1,500 pupils and 115 guidance counselors took part in this program. Over 350 Health Career cards have been received in the State Society's office from students, and after the necessary processing, were directed to the proper allied health agency involved, and these agencies then follow through by sending the specialized information requested.

Reports have been received from all counties with the exception of New London and Hartford.

A vexing problem still to be solved is that fact that there has been and will continue to be considerable turnover among the county auxiliary chairmen and field workers on the Health Careers program. This, of course, militates against continuity and necessitates continuing indoctrination of new personnel.

One rewarding aspect of the past year's experience has been the splendid cooperation of the salaried administrative personnel at the Society's office. I wish to thank particularly Mr. James Burch, Mrs. Loretto Fitzgerald and Mrs. Josephine Lindquist who have all put forth their best efforts to keep this program going. It has been my pleasure also to work with Mrs. Edward P. Allen, State Recruitment chairman of the Woman's Auxiliary and with the other ladies of the Auxiliary who have shown loyalty and devotion to its program. I wish to thank also the other members of our committee who have devoted many hours to the tasks of developing a sound plan of operation for Connecticut Health Careers.

Respectfully submitted,
Bernard F. Mann, Jr.

Unsolved PROBLEMS

# of Disorders of the Gastrointestinal Tract: EMOTIONS AND MENTAL REACTIONS

BENJAMIN V. WHITE, M.D.*
Hartford

THE lay public is well aware of numerous ways in which emotions lead to symptoms arising from the gastrointestinal tract. Duodenal ulcer is looked upon as a disease caused by nervous tension. The appetite is affected by grief and anxiety. Hypochondriacs are for ever taking medicines for real or imagined ills referable to the abdomen. Diarrhea is often caused by acute stress situations. The physician accepts as common knowledge the furred tongue and dry mouth of anxiety, globus hystericus as nervous in origin, belching as a habit pattern, functional dyspepsia as a vague clinical entity, and the importance of emotional factors in cathartic addiction. The physician is perhaps more aware than the public of the dependency needs which lead to overeating, excessive drinking, and over indulgence in tobacco, all of which may have deleterious effects. Overeating leads to obesity, excessive drinking to cirrhosis and pancreatitis, and excessive smoking to intractability in the management of peptic ulcers. Physicians who see gastroenterologic cases in continuing care (surgeons, psychiatrists, general practitioners, internists, and gastroenterologists) recognize a variety of trying post-operative syndromes which usually occur in nervous patients in whom the indications for the operative procedure have not been clear cut.

Efforts have been made to associate specific personality types with definite disease entities or syndromes. It is often stated without definite statistical proof that duodenal ulcers occur in dynamic actively aggressive persons whose behavior really represents overcompensation for unacceptable dependency needs. Conversely patients with ulcerative colitis are said to react in an immature petulant way to resentment of their dependence upon a parent or parent substitute. Increased emotional disturbance and exacerbations of colitis are described following the death or removal of such an individual.

There is no definite direct causative relation between nervous tension and symptom producing alterations in the functions of the liver, pancreas, or small bowel although the secretions and motility of these organs again are to some extent affected by neurogenic stimuli. Further research is needed in this area as well as in amplifying what is more adequately known about esophageal, gastric and colonic functions.

In dealing with clinical cases the major unsolved problems have to do with interpersonal relations. Although one sees an occasional patient overcome by an objective tragedy, most gastrointestinal somatization reactions occur in patients with greater or lesser degrees of psychoneurosis. Until methods of curing or preventing psychoneurosis have been discovered and widely practiced, psychoneurotic patients will continue to abound in such numbers that the psychiatrists can take care of only a few of them. It, therefore, remains the obligation of the general practitioner, the internist, and the surgeon to handle these people to the best of their ability. One of the most difficult needs to meet is to furnish adequate time for history taking and examination. It is not sufficient to rule out organic disease and offer reassurance. A plausible medicine prescribed with confidence will sometimes relieve a symptom, but often it only serves to confuse an already bewildered patient. What the patient needs is a comprehensive understanding of his problem. One needs to know the related findings to determine if possible the cause of his symptoms; but one needs equally to know what makes him "tick." One does not necessarily need to understand the relation between the problem and the symptom, because when the problem is being cared for the symptom often loses its importance. A good opening at the initial visit is to ask a patient what his or her problem is.

Another unsolved problem is prevention of the postoperative syndromes which follow repair of hiatus hernias, gastrectomy, cholecystectomy, appendectomy, and other operative procedures. Not all such syndromes are psychogenic but the vast majority follow surgery which has been carried out for conditions which do not fully explain the preoperative symptoms. I was recently consulted by a patient who had epigastric burning, belching, sour eructations, pains in both upper arms, nervous tension, fatigue and sighing respiration. He had had a hiatus hernia repaired six months previously. The epigastric burning, belching and sour eructations were aggravated by lying flat or by bending over to tie the shoes, and were relieved by the erect posture—almost certainly related to the hernia. But the pains in the upper arms, nervous tension, fatigue, and sighing respiration were not related to the hernia. This man forced the hand of the surgeon to operate on a lesion which he had probably had for years, which gave rise to symptoms which under normal circumstances he would have ignored, and which actually were not greatly helped by the procedure. In selecting patients with duodenal ulcer for gastrectomy it is well to be sure that the preoperative symptoms are all produced by the ulcer. Even with intractable ulcers one can elicit a history of past remissions. There should be periods of time during which symptoms are completely absent. If symptoms are present during an ulcer remission they are usually due to psychoneurosis, gastritis or some other concurrent condition, and the patient should be warned of this before surgery is undertaken. Cholecystectomy when carried out for symptoms other than colic or jaundice is often followed by disappointing end results. When cholecystectomy is performed for prophylactic reasons the patient should be so informed. It should never be represented to a patient that appendectomy will cure chronic symptoms. Precautions of this nature will not eliminate the occasional marginal ulcer, the severe dumping syndrome, or severe weight loss following gastrectomy. They will, however, obviate most of the chronically unhappy patients with vague types of indigestion after gastrectomy, most of the post-cholecystectomy syndromes, and most of the secondary operations in the right lower quadrant for adhesions, partial intestinal obstruction and the like.

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With adequate time for interviews and greater education and experience in this field the non-psychiatric practitioner can expect ever increasing rewards from his relations with most neurotic patients. Psychoneurotics are people. Many of them have dependency needs which the physician can gratify. With a little patience and understanding on the part of the doctor they can be led to their own decisions and guided in the direction of greater maturity and self sufficiency.

There are situations in which organic disease apparently gives rise to poorly understood and confusing mental disturbances. When the characteristic pain of a chronic duodenal ulcer has been replaced by retention and decompensation of the stomach, bizarre distress patterns may ensue. Patients in such a situation are often frustrated in their attempts to obtain relief, and their distraught emotional state may lead to even greater confusion on the part of physicians. Occasionally such a patient will pack his stomach with food to the point where the diaphragms are elevated and severe substernal distress is produced. An audible succussion splash on palpation of the upper abdomen is often a clue to gastric retention, and the passage of a tube may make it almost certain. The relief obtained by such patients after appropriate surgery can be most dramatic in improving both physical and mental welfare.

One of the most baffling unsolved problems is the state of mental depression so often seen in carcinoma of the pancreas. The development of jaundice on the psychiatrist's couch is a frequent source of embarrassment to the most renowned physicians and psychiatrists, but negative surgical explorations are equally humiliating. The mental depression in this disease may be caused by a toxic substance elaborated by the new growth, or may be a psychological reaction to steady pain for which the physician fails to find an adequate explanation. The secretin test is helpful in differential diagnosis only when the greater part of the pancreas is replaced by tumor. The determination of leucine aminopeptidase also gives occasional misleading results.

Baffling, too, is the dramatic evaporation of emotional disturbances after ileostomy and colectomy in patients with chronic ulcerative colitis. Here again the nagging constant discomfort, diarrhea, anemia, fever and malnutrition may simply lower the threshold to symptoms in a preconditioned emotionally immature person; but the improvement after surgery is often so dramatic as to suggest some specific factor as yet undiscovered.

The interrelations between the mind and the gastrointestinal tract are complex. Enough is known to be of immense help in the handling of clinical problems. A wider diffusion of skill in handling cases of this type depends upon training of more physicians with interests in clinical gastroenterology and in psychiatry. It also requires the development of an awareness by the public and the profession of that need for time during which a physician can give his undivided attention to the problems of a patient.

Further scientific advances in this field are primarily dependent upon the evolution of psychiatry. They include, also, clinical investigative observations centered about syndromes caused by specific alterations in the functions of various organs and the possible effects upon the brain of metabolites, hormones, or other influences arising in diseased tissues.

AMINOPHENYLPYRIDONE:

its value in preoperative and postoperative patients

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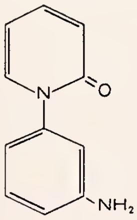
Boston, Massachusetts

THE anxiety which develops in patients, before and even after surgery is a major, persistent problem confronting the surgeon. To lessen or prevent nervous tension in these patients many drugs including the barbiturates and, more recently, the psychopharmacologic agents have been employed with satisfaction, at least initially. Unfortunately these drugs have not proved to be an unmixed blessing. Side-effects, some of considerable severity, have curtailed their usefulness and, in many instances, have necessitated their withdrawal. For some time there has been the need for a medicament capable of eliminating tension and anxiety states, yet substantially free from side-effects and safe for long-term administration.

Aminophenylpyridone, a new agent for maintaining emotional stability, appears to measure up to these specifications. It has relieved anxiety states in over 80 per cent of 1,000 adults[1, 2] and children[3] and side-effects have been virtually non-existent. No instances of drug toxicity or abnormalities of liver function have been reported. Results of blood and urine studies have been within the normal range.

Chemically aminophenylpyridone is 1-m-aminophenyl-2-pyridone, and has the following structure:



It is a pure white crystalline substance with a molecular weight of 186.2 and a melting point of 184°C. It is soluble in water to the extent of approximately one per cent. Pharmacological studies have indicated a low order of toxicity in the mouse, rat, cat, dog, and monkey. The drug appears to be totally devoid of sedative-hypnotic activity. It completely inhibited the central stimulating effects of the hallucinogen, lysergic acid diethylamide. Broad-spectrum anticonvulsant activity was suggested by its ability to antagonize both electrically and chemically (metrazol) induced seizures. In this regard its potency was in the range determined for clinically effective anti-epileptic agents. In the mouse its analgesic potency was one-third that of codeine. Cord-depressant activity, revealed by inhibition of spinal reflexes, was equal to that elicited by mephenesin, but was considerably longer lasting. In the anesthetized cat and dog blood pressure and respiration were not altered. Responses to reference autonomic drugs (acetylcholine, epinephrine, norepinephrine) and the ECG pattern (Lead 2) were unaffected.[4] Studies utilizing cerebral electrodes in the monkey reveal that aminophenylpyridone increased thresholds and decreased the duration of seizures educed by stimulation of the motor cortex, thalamus and septum.[5]

On the basis of previous clinical as well as pharmacological studies, aminophenylpyridone is of interest as a therapeutically effective drug, low in

The author wishes to thank Dr. John V. Scudi, Maltbie Laboratories Division, Wallace & Tiernan, Inc., for supplies of aminophenylpyridone, known also as Dornwal.

toxicity, with selective activity on the central nervous system. It exhibits both skeletal muscle relaxant and analgesic activity. In the present study it has been evaluated pre- and postoperatively as an agent for reducing apprehension, anxiety and nervous tension. The details of this study are presented in the following pages.

Materials and Methods

One hundred and one patients ranging in age from 17 to 67, and hospitalized for various types of surgery including appendectomy, hysterectomy, herniorrhaphy, bowel resection, and cholecystectomy, were selected at random for inclusion in this study which was conducted as a "double blind." Aminophenylpyridone, submitted as a coded preparation, was administered at a dose of 250 mg. b.i.d., t.i.d., q.i.d. prior to and following surgery. The only exceptions to this rule were patients operated on for resection of the bowel, who did not receive the drug until the fourth or fifth postoperative day owing to the use of Wangensteen suction. Blood and urine samples were taken before and after medication. The presence or absence of postoperative nausea, and the behavior patterns of all patients were recorded. The results are summarized in Table I.

Anxiety frequently attends the convalescent period and often delays total rehabilitation of the postoperative patient. At this stage, drowsiness or any sedative action often is undesirable. To determine whether aminophenylpyridone might warrant further study, a preliminary screening was run on 20 office patients. Six of these were recovering from subtotal gastrectomy. The remaining 14 were suffering from anxiety neuroses superimposed upon orthopedic conditions.

Discussion of Results

Table I shows that aminophenylpyridone was 100 per cent effective in relieving anxiety both before and after major surgery. Results of blood and urine studies were, in all instances, within normal limits. Side-effects were infrequent, as shown, and were eliminated by reducing the dosage from q.i.d. to t.i.d.

It is noteworthy that in patients undergoing hysterectomy aminophenylpyridone eliminated depression. Indeed, we recorded "better spirit" in nearly every instance. A few of these patients were disturbed by headaches and drowsiness, symptoms which are associated with the overall depression following hysterectomy.

Especially gratifying results were obtained after bowel resections, in which the fear of malignancy has always presented a difficult medical and nursing problem. In all of these patients, aminophenylpyridone had a calming effect in the face of the great fear of malignancy and the problem of being told the truth relative to the pathology found at operation.

Excellent results were obtained in all of the 11 patients undergoing cholecystectomy. The usual preoperative nausea was greatly reduced, and in all instances preoperative medication was reduced.

All 20 office patients seemed to derive some benefit. No valid conclusions can be inferred due to

Table I

TYPE OF SURGERY	SEX	NO. OF CASES	AGE	DOSE	RESULTS
Appendectomy	male	7	25-40	250 mgm 4 x daily	Very good
	female	12	17-25 (9)	250 mgm 3 x daily	Very good
			25-45 (3)	250 mgm 4 x daily	Very good
Hysterectomy	female	41	28-35 (5) 35-45 (19) 45-60 (9) 60-65 (8)	Varied from 250 mgm 2 x daily to 250 mgm 4 x daily	Most excellent
Herniorraphy	male	11	27-50	250 mgm 4 x daily	Excellent (one patient felt "dopey.")
	female	6	36-65	250 mgm 3 x daily	Excellent (two patients complained of nausea)
Bowel Resections	male	6	48-67	250 mgm 3 x daily	Excellent
	female	2			
Cholecystectomy	male	5	37-60	250 mgm 4 x daily	Excellent
	female	11	28-40 (6) 41-60 (5)	250 mgm 3 x daily & 4 x daily	Excellent

the absence of controls but the apparent subjective improvement was such that this aspect should be further evaluated. As in the double-blind hospital study, there was no suggestion of a sedative effect.

Summary and Conclusions

Aminophenylpyridone eliminated pre- and postoperative anxiety in 101 patients hospitalized for major surgery. Alertness was preserved and there were no complaints of apathy or confusion, perception difficulties, blurring of vision, agitation, excitement, or restlessness. Results of blood and urine studies disclosed no irregularities. It may be concluded that aminophenylpyridone is a safe and useful agent for pre- and postoperative relief of anxiety and tensions.

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IMPORTANT!

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ASSESSMENT OF ACTIVITY OF SULFONYLUREAS

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Philadelphia, Pennsylvania

In the case of the sulfonylureas, the first question is answered, "Yes." These drugs act in normal human subjects and in many but not all animals to cause a fall in the level of blood glucose. This is a response to the drug. It is the response in terms of the assay of related compounds. It is the response seized upon by advertisers to make their appeal. This response has synonyms which you should know by now—effect; effectiveness; control or regulation of diabetes, etc.

One result of ceasing to think after question No. 1 may be seen in the advertising of these drugs. Thus, a recent commercial circular contained among its quotations one from Hills[1] containing the words: "administered chlorpropamide has a much longer biological half-life than tolbutamide. This means that the duration of effectiveness of a single dose is much greater"—Dr. Hills was correct but think of the impact of this selection on the hurried reader. To the question:—"Does the drug act?" it answers, "Yes." It uses the words effectiveness and greater and what more does any good American want?

I assume that the professional man goes further and asks such questions as:—"How do the sulfonylureas act?" and "How much do they act?" and so have tried to collect a few illustrative findings relating to these questions. In doing so, it is assumed that the most studied sulfonylureas have a similar physiological action.

How do they act? No one would be dogmatic about this, but several possible modes of action have been eliminated and there are three approaches which are receiving attention at present. These elementary questions may be expanded and combined as follows:—

I (a). Sulfonylureas probably act on the beta cells.
  (b). How much insulin, or insulin effectiveness, is added?
II (a). Sulfonylureas act on the liver to reduce hepatic glucose output.
  (b). How much less is the glucose production?
III (a). Sulfonylureas act on the patient.
  (b). How much additional glucose is utilized? or
  How much insulin spared?

I. The concept that tolbutamide and related compounds act on the islands of Langerhans is based on such evidence as the following:— (a) The drugs are ineffective in depancreatized animals. (b) Cross circulation experiments have indicated the presence of insulin-like activity in the pancreatic vein blood of donor animals treated with sulfonylureas. (c) Hepatectomized dogs, maintained on intravenous glucose, have a hypoglycemic response after tolbutamide which resembles that seen in normal dogs. This is attributed to insulin. (d) The hypoglycemic effect of small doses injected directly into a pancreatic artery is further evidence of an action on the islands. (e) Histological change in the beta cells (degranulation) is seen after tolbutamide. (f) The most insulin dependent diabetic patients do not respond to these drugs.

This listing, made a year ago in a review,[2] may seem impressive but let's look at the quantitative information. If insulin acts on the islands, which means the beta cells, causing them to liberate more insulin, there should be (a) hypoglycemia on cross circulation from the pancreatic vein; (b) systemic hypoglycemia and increased insulin content in its pancreatic vein after infusion of an orally ineffective dose in the pancreatic artery; (c) increased plasma insulin and increased A-V glucose difference after tolbutamide; (d) increased oxidation of glucose by the body; (e) antiketogenesis and increased

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the problem of assessing the activity of any drug may be presented as follows —

Does it act on the body at all?
How does it act?
How much does it act?

fat synthesis; (f) sparing of protein in some form; (g) possible other effects not yet mentioned.

There seems to be no doubt about the lack of effect in depancreatized animals and I shall not discuss this further. About cross circulation experiments this may be said: If a donor dog is given carbutamide and its pancreatic vein anastomosed to a vein of a recipient, the blood sugar of the recipient falls. If the anastomosis is by way of a mesenteric vein, there is no fall in the recipient's blood sugar. This experiment rules out the cross circulation of sulfonylurea as the cause of the hypoglycemic effect. The amount of insulin added to the pancreatic vein remains unknown. There were no studies on the minimal amount of administered insulin needed to duplicate the result obtained with carbutamide. In like manner, Sobel *et al.*[3] observed the fall of blood sugar in hepatectomized dogs given tolbutamide. This demonstration convinces one that an effect on blood sugar can occur without the liver. Here too, the minimal dose of insulin that would produce a similar response remains unknown, nor can one secure truly relevant data from the older work of Mann, Bollman and McGath[4,5] who showed that insulin acted in the absence of the liver. Colwell and sons[6] also perfused tolbutamide into the pancreatic artery of dogs and noted a fall in venous blood sugar. This was done with doses too small to have any effect if given systemically. The amount of insulin which this response might represent was not originally appraised. In Chicago recently, Dr. Colwell* told me that his laboratory had made estimations on the insulin content of pancreatic vein blood before and after tolbutamide. I think he said that there was as much as a 100-fold increase. However, the rate of blood flow, the duration of the response, the dilution by the whole blood volume and the final effect on the whole animal would have to be known for complete evaluation of such a seemingly striking response. In contrast, Galansino *et al.*[7] injected metahexamide into the pancreatic artery or femoral vein of dogs. The two modes of administration produced similar changes in systemic blood glucose, thus yielding no evidence for a selective action of the drug on the pancreas. This is either an experimental discrepancy or an unexpected difference between sulfonamides.

One reference has been made to the measurement of insulin-like activity in the peripheral blood after tolbutamide. These assays are useful and must be pursued in spite of their present limitations—No one is completely satisfied with any method now in use. Even so, one may note that Holt *et al.*[8] found "a highly significant increase of insulin activity in normal animals after a single dose of carbutamide (14→83 mU/ml.). But, in rats treated with the drug for several months, no plasma insulin activity was observed." Thus, in Holt's laboratory, carbutamide stimulated insulin activity in short-term experiments but continued stimulation was followed by a relative insufficiency of insulin. Candela[9] also reported an increase in plasma insulin after carbutamide. However, Renold *et al.*[10] found *no* increase in blood insulin effect after sulfonylurea.

I shall not discuss the histologic changes of the islands—they occur but their quantitative meaning remains somewhat obscure. However, these comments on the possible action of sulfonylureas on the islands might well be concluded with some studies on the effects of insulin and tolbutamide **in** man.

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* Personal communication.

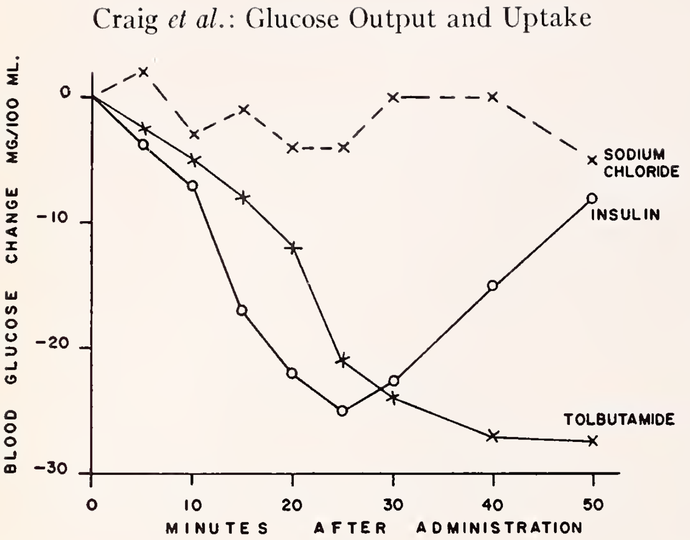

FIGURE I
Average changes in arterial blood glucose concentration produced by the peripheral intravenous administration of sodium tolbutamide (8 subjects), insulin (9 subjects), or sodium chloride (6 subjects). (From Craig, J. W., *et al.*[11])

Figure 1 is from the report of Craig *et al.*[11] It shows the average changes in arterial blood glucose concentration produced by the peripheral intravenous administration of sodium chloride (six subjects), insulin (nine subjects), and tolbutamide (eight subjects). For these tests, two gm. of sodium tolbutamide and two or three units of insulin (per subject) were used. If we assume a weight of 60 kg., the dose of insulin becomes 0.03 to 0.05 unit/kg. Note that this is about half the dose commonly used in an insulin response test (0.1 U/kg.). As far as single doses go, this provides an interesting comparison. With these doses of insulin they also observed that "both tolbutamide and small doses of insulin produced in non-diabetic human subjects a decline in arterial blood glucose concentration . . . without an increase in peripheral A-V glucose difference." The mere use of a small dose of insulin avoided this classic evidence (A-V) of peripheral utilization. This suggests that if insulin is secreted in response to tolbutamide, the amount may be of this order. The longer duration of the fall in blood sugar after tolbutamide suggests the type of response to insulin seen in hepatectomized or in hypophysectomized animals and leads one to think of the action of these drugs on the liver, rather than on the islands.

Similar results are reported by Madison[12] (Fig. 2). In this case a slightly larger dose of insulin (4.2 Units) was slowly infused but this is still a small dose. It causes hypoglycemia but no noteworthy A-V difference.

Figure 3, also from Madison,[12] shows an essentially similar curve from tolbutamide.

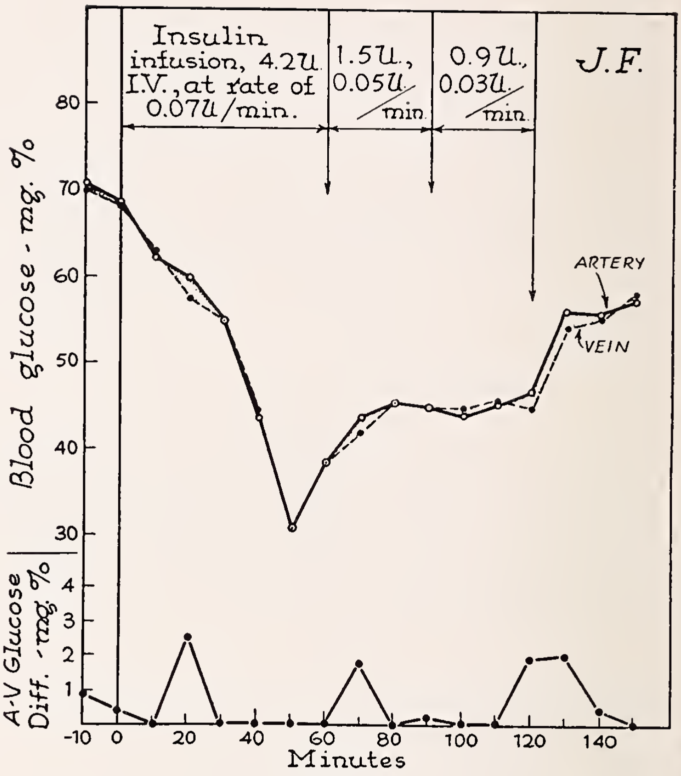

FIGURE II
Typical example of the effects of the slow infusion of glucagon-free insulin on femoral arteriovenous glucose difference in normal subjects. (From Madison, L. L., *et al.*[12].)

Another pair of experiments points to the small quantity of insulin which may be involved in the action of these drugs. Houssay and Migliorini[13] and Caren and Corbo[14] have found that sulfonylureas increased the intensity and duration of action of administered insulin in totally depancrea-

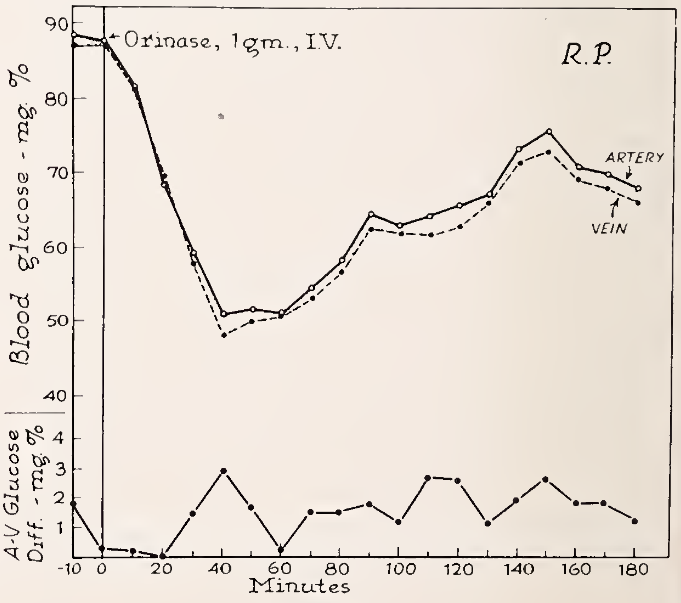

FIGURE III
Typical example of the effects of the intravenous administration of 1 gm. of sodium tolbutamide on the femoral arteriovenous glucose difference in a normal subject. (From Madison, L. L., *et al.*[12])

tized dogs. This means that they avoided the variable and uncertain factor of insulin secretion. Features of these experiments were the small doses of insulin used, namely, about 0.04 units/kg./hr. and the fact that a large dose of insulin obscured this effect of tolbutamide.

In summary, there are both conflicting results and impressive evidence for the thesis that tolbutamide may increase the secretion and/or effectiveness of insulin. Some insulin must be present if sulfonylureas are to act. However, the amount of insulin or insulin action so added is apparently very small, and certainly poorly estimated as yet.

II (a). Sulfonylureas decrease the hepatic glucose output.

(b). How much is this, measured in grams of glucose or sparing of insulin?

The bulk of evidence supports the concept (or should I say fact?) that tolbutamide reduces hepatic glucose output in contrast to insulin which increases it at least under certain circumstances. I shall not discuss technical problems of method since the reduced output of glucose is so generally accepted. But what does this mean in terms of some measurable amount? For the dog, Ashmore *et al.*[15] give a mean hepatic glucose output of 6.4 mg./kg./min. Sixty minutes after insulin (5U i.v./dog) the value averaged 8.6; 60 minutes after tolbutamide, O. Normal hepatic output for a 20 kg. dog per day then amounts to 184 gm. of glucose. Obviously the output of zero at 60 minutes is not the state of affairs during the usual therapeutic usage of the drug. The fact that insulin does not do this means that this effect cannot be reproduced by any measured dose of insulin. However, this effect of tolbutamide would evidently permit existing insulin to catch up with some of the diabetic's deficit in glucose disposal.

Nothing will be said here of the fact that tolbutamide cannot duplicate the main effects of insulin. The total combustion of labelled glucose is not increased, nor is fat synthesis promoted. Some increase in liver glycogen and some sparing of liver protein is possible. There is, according to Dole,[16] a prompt lowering of plasma unsaturated fatty acids. The meaning of many such effects is still obscure. For the body as a whole, we know of no special direction or usage of glucose, promoted by tolbutamide, which would give the drug a peculiar value even if only a small amount of glucose were involved. This brings me to the final consideration—the action on the patient.

III. The action of sulfonylureas on the patient—How much additional glucose is utilized, or how much does decreased hepatic production spare the diabetic's limited supply of insulin? I have already noted that efforts to measure blood insulin after sulfonylureas have led to no unanimity. The most recent report on this, still unpublished, was by Berson and Yalow. They found a possible slight increase in blood insulin after tolbutamide but a marked increase after glucose, a result which indicates a difference in the nature or intensity of islet stimulation. Doses of insulin to produce a hypoglycemia parallel to that of tolbutamide have already been examined. So I shall spend the remaining time examining the relations of diet, weight, and glycosuria as contained in a few of the reports which record something more than blood sugars.

There have been numerous reports of patients whose diabetes was partly regulated by diet and 50 to 60 units of insulin daily, in whom sulfonylureas have been quite ineffective. In such cases, insulin is present, at least exogenous insulin, yet the sulfonylureas do not act. The same situation may be seen when some insulin is obviously provided by the islands themselves. Table 1 is taken from work in our laboratory[17] confirming the fact that tolbutamide does not act in rats with alloxan diabetes. Rat 13 had only half the glycosuria of rat five, a difference too great to be explained by the diet. More important, both rats were able to maintain weight and live for many weeks without insulin. Therefore, both rats, but especially No. 13, were producing insulin. Yet this was not enough. Either the beta cells could produce no more or the liver was now resistant to the drug, or some condition was lacking. A similar situation is found in the clinic when mild diabetics fail to respond. The reasons are obscure but the fact remains.

TABLE I
LACK OF EFFECT OF TOLBUTAMIDE IN ALLOXAN DIABETES

RAT NO.	FOOD GM/DAY	URINARY GLUCOSE*—GM/DAY		TOLB MG/DAY
		CONTROL	TREATMENT	
5	20	6.2 (8)	6.6 (10)	20
13	15	3.4 (7)	3.1 (13)	20

* Days of periods are given in parentheses.

Forsham *et al.*[18] have shown that man, like other animals, does not respond to sulfonylureas after pancreatectomy. They also found that the fall in unsaturated fatty acids in response to sulfonylureas[16] is also dependent on the presence of insulin.

In their studies on chlorpropamide, Duncan *et al.*[19] report two patients who illustrate the variety of responsiveness to the drug as measured by glycosuria. The first was an overweight woman of 79 years. During a short control period, she had four grams of urinary glucose or less per day and marked hyperglycemia. On chlorpropamide the blood sugar returned to normal fasting levels and to much lower levels (120 to 150 mg./100 ml.) after meals.

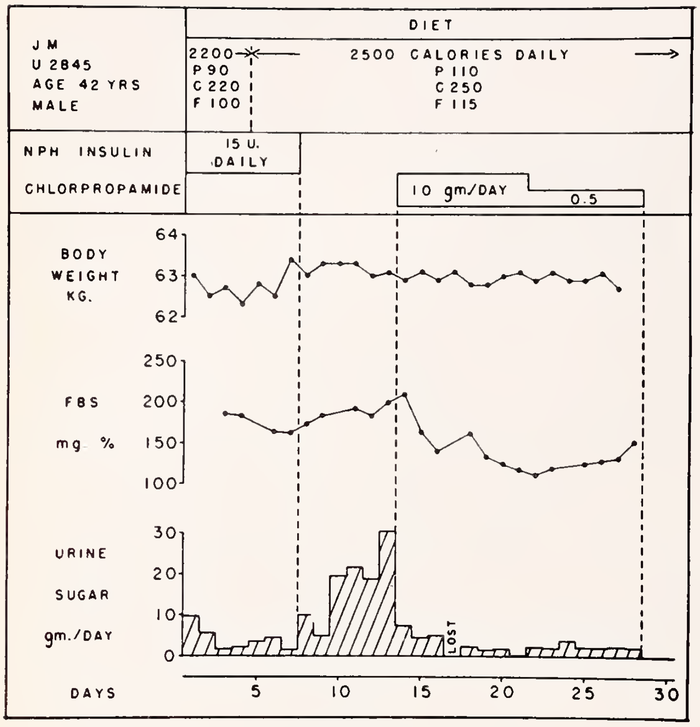

Figure IV
From Baertl, J. M., *et al.*[20]

Even so, the slight glycosuria was not abolished. This was called a favorable response, but the diminution in glycosuria and the resultant increase in utilization of glucose must be regarded as negligible. The second patient showed no improvement during chlorpropamide at which time she excreted 17 to 35 grams of glucose daily. This experience is added because in other studies one will see amounts of urinary glucose up to 40 grams or more eliminated by the sulfonylureas. Why this effect is seen in one patient and not in another is still quite unknown.

In citing these studies of Duncan *et al.*[19] their estimate of the usefulness of these drugs deserves quotation. They state:—"Ideally, the patients for chlorpropamide therapy would be selected from approximately 10 per cent of the diabetic population. This is based on the relatively sound assumptions that it is possible to control diabetes, barring acute complications, in 80 per cent by diet alone, that five per cent are children, and that the remaining five per cent are adults with labile diabetes. In these two latter groups long term treatment with chlorpropamide is ineffective."

Figure 4 records observations made by Baertl *et al.*[20] on a 42 year old man with diabetes of one year's known duration. The patient had discontinued insulin, entered the hospital for acidosis and after his recovery from this these studies were made. If one estimates that about 25 grams of glucose per day were kept out of the urine by chlorpropamide, one can look further and note that this is 10 per cent of the large carbohydrate intake. This is certainly a significant response as measured by the diminution in glucose excretion. I have yet to see the protocol of an experiment in which the return of glycosuria was observed after stopping sulfonylurea, and in which the patient was then treated by the reduction of 50 grams in this large dietary carbohydrate. What would happen? Baertl *et al.*[20] also report their findings in a 60 year old woman, diabetic for 10 years, who was well controlled on 30 units of insulin daily. In three days without insulin her glycosuria ranged from 68 to 94 grams per day, and she lost weight, although she only weighed 61 kilograms. On chlorpropamide, glycosuria decreased by 40 grams but this still left an excretion of some 54 grams of sugar a day. It is worth noting this quantitatively significant response which nevertheless occurred without leading to satisfactory control of diabetes. Not only the magnitude of the response but its relation to the normal laboratory figures must be taken into account.

One more situation is often publicized and too seldom understood. This is the prompt treatment of recently diagnosed diabetics with sulfonylureas without controlled observations. Under these circumstances, patients having more than 100 gm. of urinary glucose per day may be converted to a sugar-free urine. But this is not all pharmacology. This is a remission of diabetes and if subsequent control studies are made, the stable state of such patients will follow the relatively mild patterns of the disease.

In closing, I would cite Galansino *et al.*[7] who recently concluded "that the hypoglycemic effect of the sulfonylureas is due at least in part to a decreased liver glucose production; and, considering the evidence that the drugs are ineffective in the total absence of functioning pancreatic tissue, that the hepatic action of the sulfonylureas can manifest itself only if small, permissive quantities of endogenous or exogenous insulin are provided.—Prolonged therapy with sulfonylureas should be attempted cautiously for the suppression of hepatic glucose production may be a sign of injury, and continued stimulation of the beta cells may result in functional insufficiency. Substituting for insulin, which . . . . corrects the major metabolic defects of diabetes,—drugs which do not appear to promote the direct utilization of glucose by the peripheral tissues nor to correct the changes in blood lipids, may also be harmful."

I should note that the harmful effects on islets or liver are not immediately revealed, as you know. All that I have added to this summary is to cite a little of the evidence for it and to indicate that the amount or quantity of the metabolic effects of these drugs is relatively small, or quite uncertain. It would therefore seem wise to limit their use to patients in whom only a small effect is needed in addition to diet.

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A Guide To A Community Health Study

Health problems created by increased urbanization and the profound changes that have occurred in community health work have led the Committee on Public Health Administration of the American Public Health Association to issue a new edition of the *Guide to a Community Health Study*. " . . . We live in a highly interdependent society where urbanization increasingly dominates the scene. In such a situation, health is intimately and intricately related to the operation of the social organism."

In this revision of the study guide there is, for the first time, a large section on mental health. Also, the guide places special emphasis on such fields as adult health—particularly in connection with noncommunicable disease and its consequences—and disaster planning.

As aids in the development, maintenance, and improvement of community health services, two additional documents will soon be published by the Association—*Administration of Community Health Services* and *Indices for Community Health Services.*

" . . . There has evolved an awareness of the crucial importance of community action in the promotion of health and the prevention and treatment of disease." It is hoped that these documents will help to increase this awareness and ease the job of those willing to help define and solve problems of community health. *(Am. J. Pub. Health 50:709, May, 1960.)*

A CLINICAL STUDY OF SERIAL OSSEOUS VENOGRAPHY FOR PERIPHERAL VASCULAR DISEASES

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THERE is a need to accurately differentiate venous from nonvenous edemas. The etiology of edema may best be determined if deep venous and lymphatic systems are visualized. The use of drugs such as hyaluronidase[6] could be then subjected to clinical trials for the relief of specific edemas.

Percutaneous venography requires a palpable vein. Edema and obesity will obscure the vein. Cutting down on the vein is not without risk when edema is present. Visualization of the lymphatics with radiopaque solutions is self-limited by ramification of the lymphatics.[5]

Intraosseous venography has been found successful in demonstrating the deep venous system.[1,3] The direct injection of hypaque into the bone has the advantage of being a simple procedure, having easy landmarks and not requiring a vein. Studies of 17 patients will be presented to illustrate the value of this method in demonstrating the etiology of peripheral edema and the abnormal dynamics of venous circulation.

Technic of Examination

The patient is prepared with demerol 50 mg., scopolamine hydrobromide 0.3 mg. and benadryl 50 mg. given intramuscularly. Hypaque may cause a moderate amount of pain and burning. Sensitivity tests are carried out.

A cannulated needle is used. The lower end of the cannula is threaded. It has a luer-lok top to prevent the stylet from being displaced as it moves through the cortex.

Aseptic technic, sterile gloves and drapes are used. The lateral malleolus is preferred as the site of the injection but the medial malleolus or os calcis can also be used. The skin and periosteum are infiltrated with procaine. The needle is introduced through a stab incision of the skin until it engages the cortex and it is then turned until it enters the medulla. This position is confirmed by x-ray. A plastic tube such as the venotube No. 30 is attached to the cannula so that the hands are well away from the x-ray field. The x-ray table is kept horizontal. The exposure technic is 12:1 grid, 40″ distance, 100 m.a. 75 kv. ½ second.

Ten cc. of 50 per cent hypaque is then rapidly injected. Three films are taken in the frontal plane, the first on completion of the injection, the second at 30 seconds and the third at 90 seconds. If better localization is desirable another 10 cc. of hypaque is injected and lateral films made. Following the removal of the needle and application of a dry dressing the patient was ambulated as soon as ankle is comfortable. Mild residual tenderness may be present at the injection site for about three days.

Studies of normal venograms indicate that the injection into the fibular malleolus was most successful in obtaining total visualization. Each site assured filling the deep veins arising in its immediate vicinity. Injecting the medial wall of the calcaneus opacified the posterior tibial vein. The single venogram demonstrates the presence, location and valvular competence of the visualized vein. The serial venograms demonstrate the dynamic capacity of the vein by recording the rate of filling and clearance of radiopaque solution. Venous flow is normal when the deep veins fill in the first film and are only faintly seen in the second and third films. The deep communicating veins are cleared in the third film. Perforator veins are not usually seen in the normal venogram. If visible, but not dilated they fill by retrograde flow. Valves were better visualized if the foot of the table was slightly lowered. If the tilt is about five inches, capillary pressure is not increased and presumably venous flow is not affected. Cusp like bulges in the vein wall where valve leaflets are attached may remain outlined by hypaque even in the third film after the vein itself is cleared. Absence of valves is common at the ankle and is a normal variant.

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A non-visualized vein may be considered occluded when its collaterals are opacified and filled from the same source. When the posterior tibial vein is blocked, adjacent tributaries and the internal saphenous vein are visualized. Occlusion of the peroneal or anterior tibial vein results in a flow of dye into external and internal veins. With blockage of all three major veins a maze of perforator and communicating veins is seen. A segmental block of the upper portion of a deep vein causes a detour of opacified blood through communicating veins to other deep veins and by retrograde flow through perforator veins to superficial veins. Flow is so slow in these veins that they are still visible and even more opaque in the third film. An uneven density within an opacified vein and irregularity of its margin suggests recanalization. Complete closure of perforator or superficial veins cannot be recognized due to their variable courses. Varicosities are recognized by their irregular dilatation, tortuosity, slowed emptying time and incompetent or missing valves. Large varicosities of deep communicating veins are seen without superficial varicosities being present. A variability in normal venous patterns requires that x-ray interpretation be supplemented by clinical experience and detailed physical examination.

The serial venograms of our patients interpreted according to these criteria together with their clinical examinations are presented as syndromes in the order listed in Table 1.

TABLE I
SUMMARY OF INDICATIONS AND INTERPRETATIONS IN SERIAL OSSEOUS VENOGRAPHY

A. Peripheral edema *without* visible venous disease.
  1. Lymphedema: aplasis, lymphangiectasia.
    Venogram demonstrates no deep venous block.
  2. Venous edema: postphlebitic syndrome
    active phlebitis of deep veins.
    Venogram demonstrates deep venous block and competent compensatory collaterals
  3. Reflex edema: a response to trauma, or inflammatory diseases of musculo skeletal tissues
    Venogram demonstrates no venous block.
B. Degree of peripheral edema is related to status of venous collaterals.
  1. Normal superficial and deep collaterals.
  2. Incompetent collaterals.
  3. Active periphlebitis and sequellae.
C. Pain in leg and ankle of unknown origin.
    Venogram can demonstrate basis for pain due to incompetence of deep or perforator veins. If negative, cause is sought in musculo-skeletal and neural tissues.
D. Coexisting arterial and venous insufficiency.
    If arterial sufficiency permits, osseous venography provides competent evaluation of venous flow in a manner similar to arteriography.

A. Peripheral edema without evidence of venous disease.

1. Four cases had edema of five or ten years' duration. The skin was doughy. No varicose veins were noted. Femoral vein pressures were normal. The edema was refractory to treatment with hyaluronidase. Fig. 1a and b reveal a normal serial venogram typical of the group. The diagnosis of lymphedema was made by exclusion.

2. Three cases of three to five years' duration were clinically similar to the above except the edema was susceptible to hyaluronidase. Venography Fig. 2 revealed occlusion of one or more deep veins. Retrograde flow through the communicating and perforator veins to the superficial veins is

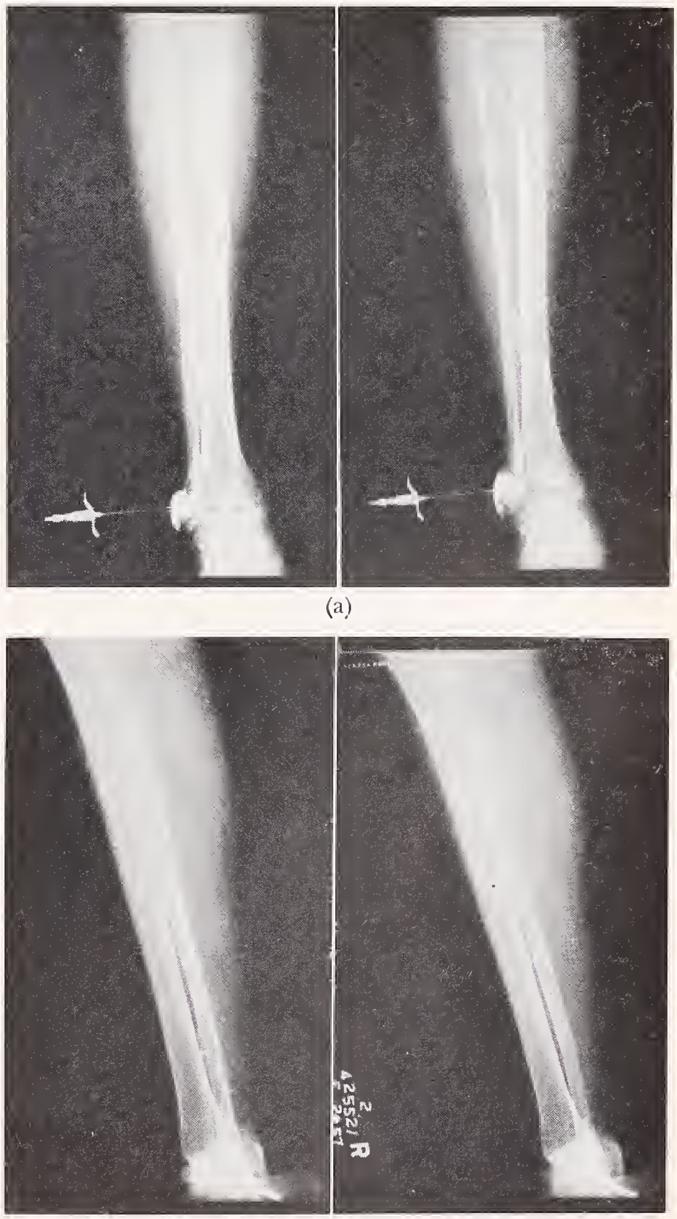
(a)
(b)

FIGURE 1 (a) Frontal and lateral views taken directly after injection of dye show normal deep veins. (b) One minute later the opacification is rapidly fading, two minutes later no dye was visible. Diagnosis: Lymphatic edema.

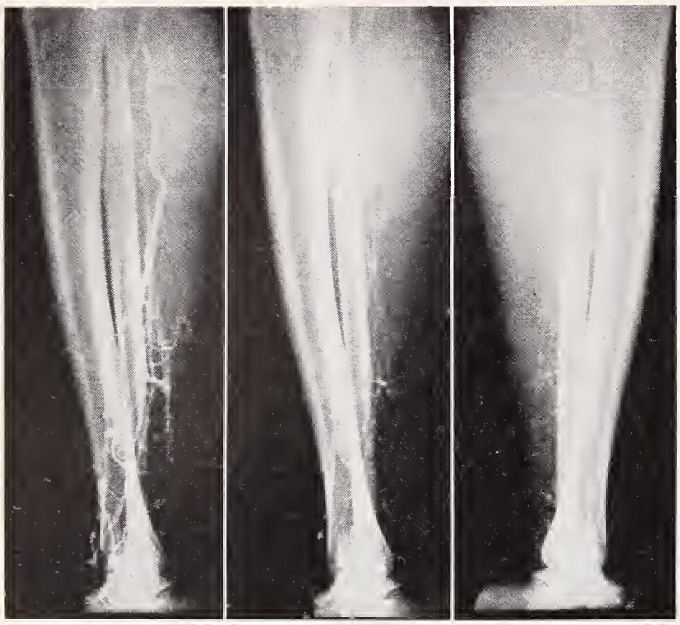

FIGURE 2. Deep venous occlusion seen in first film. Dye is cleared in succeeding films thru the opacified superficial veins which are free of any structural defects. Diagnosis: Venous edema.

noted. The superficial collaterals, however, are structurally unaltered. This explains the absence of cutaneous evidence of incompetency. The diagnosis was deep venous edema.

3. Patient was admitted with a three day history of calf pain and edema of leg. Dorsi-flexion exaggerated the pain. Elevation only partially relieved it. A diagnosis of phlebitis was made and anti-coagulants were administered. On becoming ambulatory after three weeks no residual edema was present. Since this was unusual in a patient with such severe pain and edema osseous venography was performed and a normal venogram was obtained. A review of the history disclosed that long and strenuous exertion preceded the onset of pain. The diagnosis of a ruptured plantaris longus muscle was made.

B. In peripheral edema with clinical evidence of venous disease venograms reveal a correlation between structural changes in the collateral venous system and the degree of edema. Edema due to deep venous disease is mildest when no structural defects are present in the collateral veins. (Fig. 2) It is marked when superficial collaterals are varicosed and incompetent. (Figs. 3, 6) The edema is most severe when deep venous disease is accompanied by superficial and perforator phlebitis and periphlebitis.

C. The problem of severe pain with little or no edema and no visible venous disease came closer to solution after the venogram.

Three patients with this problem had high serum uric acids. Colchicine did not help their pain which was first felt to be due to gout. Two had occlusive venous disease and showed abnormal collaterals in their venograms. In the third case a normal venogram led to investigation at a higher level where osteophytosis within the neural canals was exposed as the etiology of the leg pain. His edema was considered due to impairment of the venous pump by the loss of muscle tonus. The reverse situation is illustrated by the patient with severe spondylolisthesis at L_5 and S_1. However his leg pain was relieved by walking. The venogram Fig. 4 revealed a large varicosed perforator vein

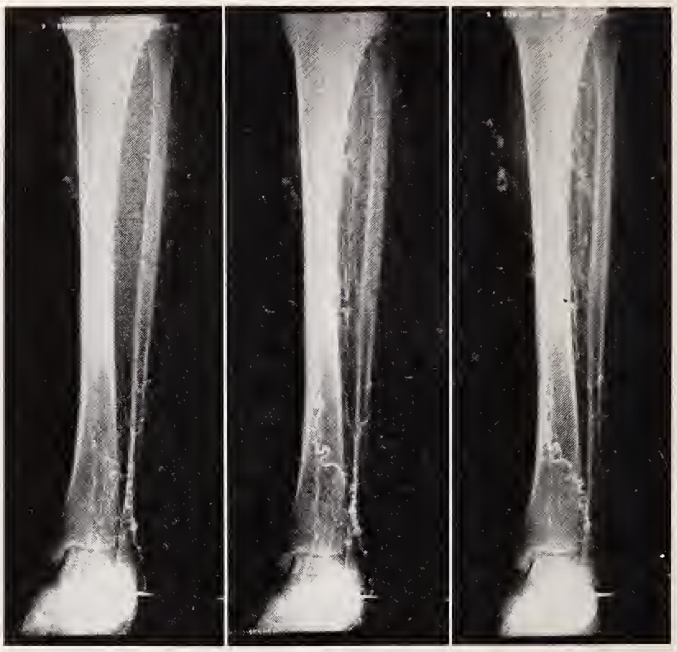

FIGURE 3 shows that the deep veins fail to opacify because of occlusion. Flow is bypassed through the superficial veins which are tortuous and show delayed clearing of dye. Diagnosis: Venous edema.

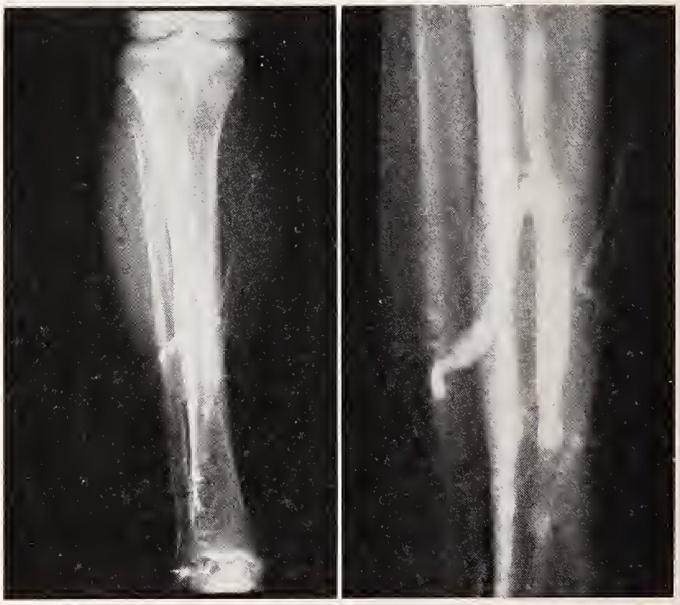

FIGURE 4 shows the single incompetent perforator vein whose presence explains the patient's atypical pain. The deep and superficial veins are normal.

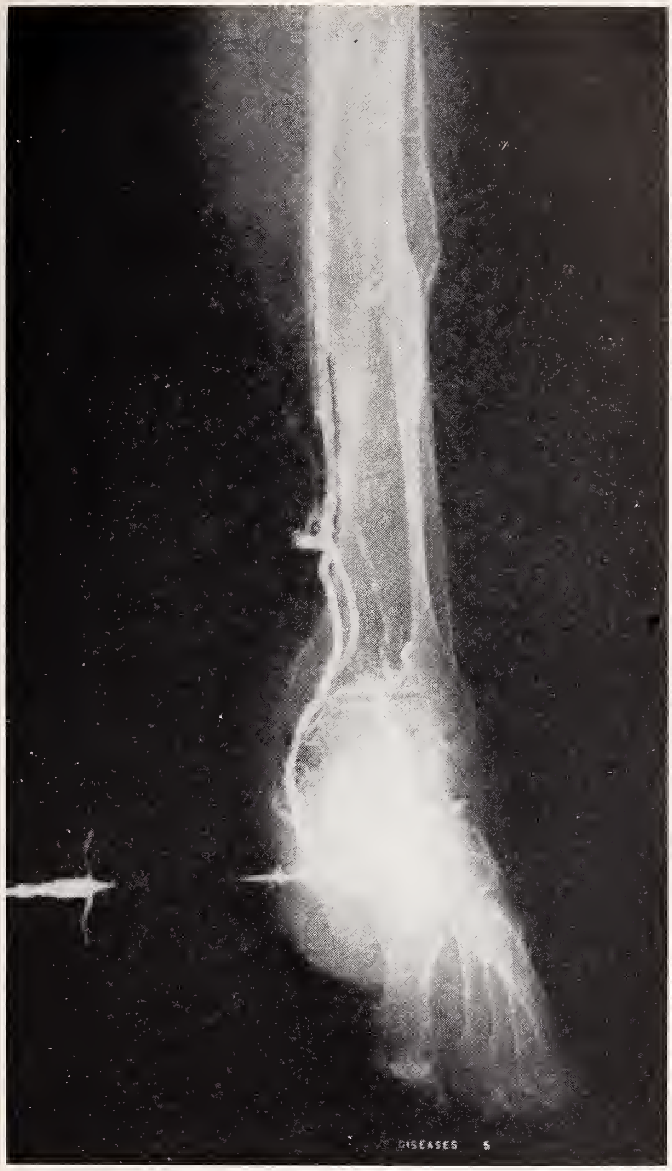

FIGURE 5 shows a perforator vein whose blind end lies within the base of a massive chronic ulcer caused by deep venous disease.

with retrograde flow from the peroneal vein to a large but normal superficial vein. The perforator, engorged by the erect position was emptied by walking and thus the pain was relieved. Operative relief from pain can be obtained only by completely dissecting and ligating the vein at its entrance into the peroneal vein rather than where it perforates the deep fascia.

Fig. 5 is the venogram of such a perforator vein filled with hypaque. Its blind end lies in the base of an ulcer. Ligation flush with the deep vein would more likely have prevented its persistence as a source of periphlebitis and its complications.

D. Coexisting venous and arterial insufficiency

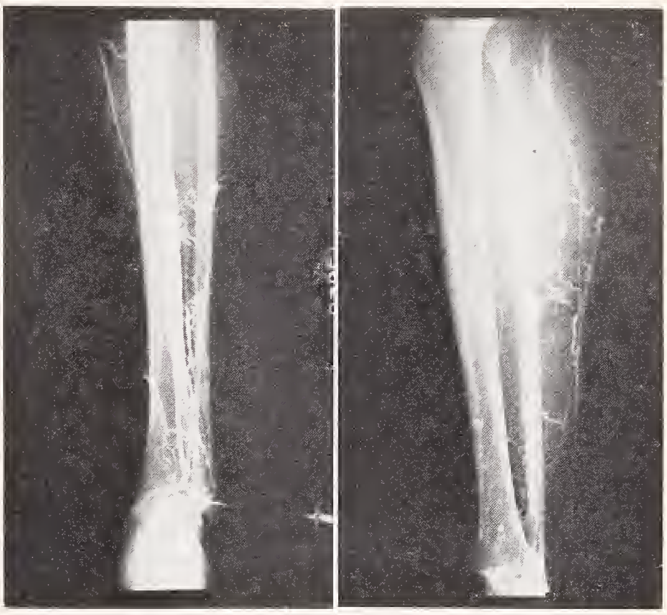

FIGURE 6. Patient presented both arterial and venous diseases. Films show complete venous occlusion and a maze of dilated perforator and superficial veins with stagnant blood flow.

Patient had a six year history of intermittent claudication. Four years prior to the venogram he had an episode of phlebitis. He was now seen because of severe pain which caused sleepless nights. Arterial infusions of histamine[7] enabled him to enjoy a full night's sleep. Walking tolerance increased from ½ to two block. The arteriogram revealed occlusion of deep and superficial femoral arteries. The collaterals appeared adequate. The venogram Fig. 6 demonstrated occlusion of the three deep veins. Note the maze of collaterals. The severity of the venous disease indicated that further thrapy directed to th arterial system was useless.

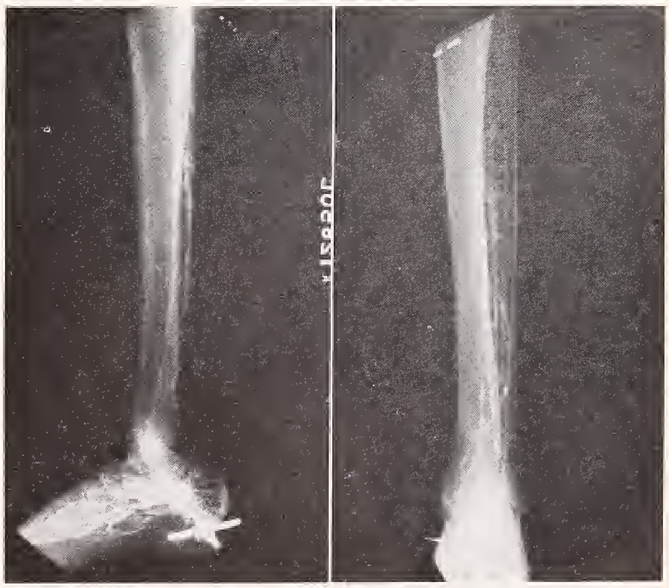

FIGURE 7 shows the deep venous system of a limb before being amputated because of irreversible arterial insufficiency. Atony has caused valvular sinuses to dilate giving them the appearance of multiple diverticuli. Venous flow is slowed but no occlusions are noted.

Venography Fig. 7 was performed under general anesthesia prior to an above the knee amputation for severe arterial occlusive disease. Ascending deep phlebothrombosis was suspected because of the deep cyanosis and edema. The question of postoperative anticoagulation had to be entertained. The venogram revealed patency of the deep venous system with extreme atony of the vessel walls. This was especially manifest in the valve cusps whose dilatation gave them the appearance of multiple diverticuli. Anticoagulants were not indicated because of the absence of thrombosis. The postoperative course was smooth.

Discussion

Osseous venography has certain advantages over persutaneous venography. A cut down is not needed. There is no attendant danger of skin necrosis. Edema is no bar to its performance. The landmarks are easily identifiable. Primary visualization of the deep venous system is virtually guaranteed. If percutaneous venograpahy would do the same, a tourniquet must be kept applied during the injection of 50 cc. hypaque and the table tilted very sharply.[4] These alter the dynamics of venous circulation making correct interpretation of serial venogram very difficult. There is no difference in the discomfort caused by the injection of hypaque in either method.

The diagnosis of edema due to lymphatic disease is made by exclusion aided by venography and a clinical system review for local musculo skeletal and central disturbances.

Clinical observations of our patient material confirm the need of venography by the osseous route. It is invaluable when it becomes necessary to differentiate venous from non-venous edema. Occult venous disease can be uncovered as the etiology of obscure leg complaints. When venous disease is known to be present it provides a rational basis for planning treatment by demonstrating the site and character of venous pathology. An example of this is illustrated in Figures 4 and 5 which suggest that the ideal site for the ligation of an abnormal perforator vein is its entrance into the deep vein and not where it pierces the deep fascia. This technical approach has been in use.[2]

Arterial and venous insufficiency are frequently present in the same patient thus posing a complex problem in therapy. Thromboangiitis is an example. Another is arteriosclerotic occlusive disease which develops in patients who have had chronic venous disease for many years. More serious is the venous insufficiency which develops because of severe peripheral arterial disease. Its mechanism is the narrowing of the pressure gradient between arterial and venous circulations. A partial or complete occlusion of an artery causes blood pressure distal to the block to fall.[7] Venous pressure rises as ambulation is halted by claudication and peripheral neuropathy. Under these circumstances a decision to pierce the skin and bone must be preceded by evaluation of local arterial flow. When feasible, information obtained from venography and arteriography helps choose the primary therapy.

Peripheral venous disease is difficult to treat. Relapses and chronicity are frequently the result of irreversible etiology and pathology. Familial congenital abiotrophic defects inherent in the fibroelastic components of veins cause their walls to stretch, dilate and become incompetent under ordinary stresses of the upright position.

It is our clinical impression that hypercoagulability leading to phlebothrombosis can develop as a psychosomatic sequence.[8] This occurs when the integrity of the patient is threatened or denied by an immobile or unassailable force which he resents but to which he helplessly yields. This concept proves itself when recurrent phlebitis ceases immediately after this psychosomatic bond is broken. A threat to life and health experienced by these susceptible individuals when facing anesthesia, operation or difficult childbirth may similarly be the basis for the phlebitis which follows. While deep venous occlusions and insufficiency of the inactive state of deep phlebitic syndrome persist, the collateral venous system, superficial and deep, remains vulnerable to recurrent phlebothrombosis and sequellae. When these problems exist serial venography will contribute to their better understanding.

Conclusions

1. The osseous route for venography is informative and is not difficult for routine use in aiding the differential diagnosis, understanding and treatment of peripheral vascular disease.
2. Serial osseous venography consistently visualized and recorded the status and dynamics of blood flow in the deep veins of the lower extremity.
3. The venograms were effective in the differentiation between venous and non-venous edema of the lower extremity.
4. In the presence of venous disease this technic demonstrated the occlusions and incompetency of the deep veins and the status and efficacy of the collateral venous circulation of both the deep and superficial veins.
5. This technic carried out under sterile precautions was safe and free of sequellae even when edema, ulceration and eczema were present.

The author wishes to gratefully acknowledge the help of Dr. Alex Norman and Dr. Kent Ellis, roentgenologists of the Hospital for Joint Diseases and Presbyterian Hospital, New York City, respectively.

Needle was made by Becton Dickenson, Rutherford, N. J.

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Lenticular Implants

The idea of replacing the lens of the eye by an artificial lenticulus is not as new as it seems. . . ." As far back as 1776 a crystalline ball had been inserted behind the cornea after cataract removal. But the danger to the aphakic eye of placing an acrylic lenticulus into the anterior chamber is such that it "should curb the exuberance of some of the more determined lenticulus implanters."

This implant, developed by Strampelli, is placed in front of the pupil and is supported by arms stretching into the angle between the iris root and cornea. This procedure is now generally preferred to the earlier Ridley lenticulus, which lay behind the iris.

Pathologic findings in a 71-year-old patient with an aphakic eye and a normal fellow-eye, who died of other causes following an operation for insertion of a lenticulus into the anterior chamber, showed that "the arm of the implant had pushed the iris root so far back, and caused so much atrophy of the adjacent tissues, that a complete tear of the iris root or of its attachment to the sclera . . . would have seemed a possible outcome." Among other findings was that a large part of Descemet's membrane was buried deep in the tissues at the angle of the anterior chamber, indicating the great trauma produced by the operation.

The anterior chamber operation should not be abandoned, but caution is required. "Perhaps a lenticulus with narrower arms will cause less atrophy of the iris (though such an arm would be sharper and might even cut deeper into the soft uveal bed." Improved technique or a longer period between extraction of a cataract and insertion of the lenticulus may be helpful.

Removal of monocular cataracts when the fellow eye is healthy is not usually a necessary procedure, but there are occasions when extraction of the cataract is desirable. The lenticular implant should be undertaken only in those few cases where the advantages positively outweigh the risks, and "we should avoid subjecting too many healthy aphakic eyes to dangers which we cannot truly apprehend until several more years have passed." *(British Medical Journal 1:1037, April 2, 1960.)*

MECHANISMS IN BODY BALANCE AND ORIENTATION

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The study of body balance and orientation has for many years been almost exclusively preoccupied with the vestibular structures of the inner ear. Indeed, in many modern textboks "vestibular physiology" and the "physiology of body balance" are oftentimes treated as equivalent terms. The domination of vestibular structures has not been confined to the realm of physiology but has infiltrated the related fields in clinical practice as well, and a patient who suffers from unbalance and vertigo but is otherwise healthy is oftentimes put under the care of an otologist. There are other physiological mechanisms besides those involving vestibular structures, however, and knowledge of body balance and orientation can be well advanced both on the physiological and on the clinical level by considering all of the known mechanisms concerned with this important phenomenon.

One cannot orient himself in relation to an environmental object by merely employing his retinal sense during visual fixation of the object. In addition to vision the person must be simultaneously informed concerning 1) the distance of the object from him, 2) the position of his eyes in relation to his head, 3) the position of his head in relation to gravity, 4) the position of his head in relation to his body, and 5) the position of his body in relation to gravity. Each of these five physiological conditions is concerned with determining anatomical relationships which are variable, and thus the prevailing anatomical relationship must be signalled to the integrating center of the brain before the visually fixated object can be accurately located in space and the spatial relationship between the object and the organism can be correctly assessed. The respective anatomical structures which are concerned with the five physiological conditions are as follows: 1) ciliary and extraocular muscles, 2) extraocular muscles, 3) vestibular structures, 4) neck proprioceptors, 5) tactile and muscle receptors which are stimulated by contact of the organism with the object which is supporting him against gravity, such as the floor in standing and a chair in sitting.

Eye Mechanisms. Reid was apparently the first to clearly state the importance of the ciliary muscle of accommodation and the extraocular muscles in orientation.[1] He pointed out that the ciliary muscle could determine the distance of fixated objects from the viewer by signalling to the brain the degree of contraction which is required to bring the object into focus. This mechanism would probably be useful only for objects closer than 12 meters since objects at greater distances require no significant additional adjustment of the lens to remain in focus. Although this concept seems plausible nobody has as yet demonstrated histologically the existence of muscle spindles or any other type of tension sensitive receptors in ciliary muscle.

There is much more information in regard to extraocular muscle proprioceptors. The existence of modified muscle spindles in extraocular muscles of man and other animals has actually been demonstrated[2] and their responsiveness to stretching of the extraocular muscles has been proven.[3] The physiological role which these proprioceptors play in orientation phenomena is not clear. Reid[1] pointed out that sensation coming from the extraocular muscles could, in binocular animals, be important in judging the distance of an object from the viewer. This is done by signalling the angle of convergence which the two eyes make in focusing upon an object. He further stated that this mechanism could not be effective in judging the relationship between very distant objects because at great distances there would be no significant difference between the various angles of convergence. He supported this point by pointing out that all distant stars in the heavens *appear* to be at the same distance from us although they are actually separated in most cases by millions of miles. It seems clear that at least in monocular vision it is essential to know the position of the eyeball in the head in order to orient fixated objects.[4]

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* Studies by the author were performed at: University Laboratory of Physiology, Oxford, England as Fulbright Fellow for Advanced Research, National Science Foundation Postdoctoral Fellow.

Vestibular Mechanisms. There is a vast literature on the physiology and clinical examination of the vestibular apparatus. Despite this, certain fundamental questions have not yet been factually answered. It is commonly stated in textbooks that the function of the cupulae in the semi-circular canals is to respond to angular acceleration whereas the otolith organs respond to gravity. Although many experiments have been performed which demonstrate the mode of action of vestibular receptors it has never been conclusively demonstrated that the cupulae are mainly angular acceleration receptors and the otoliths are principally rectilinear acceleration and static position receptors. As for the function of the saccular otoliths, it has never even been established whether they are primarily proprioceptors, or auditory receptors for low notes or loud noises, or both. Furthermore, some of the best research into the function of vestibular receptors has been done on fish because the receptors are more accessible in these animals, yet Lowenstein has stated that the labyrinth of fishes is sufficiently generalized to give evidence of all potential functions side by side.[5] The situation is further complicated by the erroneous use of the terms "acceleration" and "gravity" as representing qualitatively different stimuli. As van Egmond, Groen and Jongkees correctly pointed out,[6] gravity is merely a form of linear acceleration and thus, in their opinion, the only valid distinction between vestibular receptors is that the cupulae respond to angular acceleration and the otoliths respond to linear acceleration. Thus, gravity is actually a long duration linear acceleration and, for example, straight acceleration in an automobile would be a short duration linear acceleration. This precision in thinking, and the resultant clarification of commonly used terms in vestibular physiology, eliminates a great deal of confusion in the task of assigning special proprioceptive functions to the two types of vestibular receptors. The weight of evidence, which has so far been indirect in nature, does seem to indicate that the cupulae receptors are *most sensitive* to angular acceleration and the otolith receptors are most sensitive to linear acceleration but sensitivity is not everything in physiology and to state that the cupulae are concerned principally with angular acceleration and the otoliths mainly with linear acceleration is certainly unjustifiable at this time.

The usual clinical tests of vestibular function involve stimulation of the vestibular structures by both angular acceleration (e.g., Barany chair) and long duration linear acceleration (e.g., standing with eyes closed) and studying the responses to these stimuli. Nystagmus, afternystagmus, body balance and orientation are the more commonly observed responses. The important point to make here is that other proprioceptive mechanisms besides the vestibular ones can also produce these same responses and consequently aberrations in these responses do not of necessity indicate vestibular malfunction. This is especially significant in regard to neck mechanisms and will be discussed more fully below.

Neck Mechanisms. It is surprising that the role of neck proprioceptors in the maintenance of normal body balance and orientation has been almost completely neglected by investigators. Surely it must be important for a well balanced and oriented individual to know the position of his head in relation to his body, and some thought on the matter soon reveals that it is physically impossible for any of the vestibular receptors to supply this information. The few investigations of neck proprioceptors which have been made were concerned with cordal reflex effects of these receptors, which is quite different from the sense of body balance and orientation. Thus, Magnus[7] described the reflex alterations of limb muscle tensions associated with different positions of the head upon the body. McCouch et al[8] further showed that the receptors for these limb reflex responses were situated in the ligaments and joints of the first three cervical vertebrae. Van der Hoeve and de Kleijn established the existence of compensatory eye movements which are correlated with various positions of the head in relation to the body.[9] They concluded that these eye movements were reflex responses to vestibular stimulation—a notion which persists in many quarters to this day—but subsequently de Kleijn reported[10] that the eye movements occurred even in labyrinthectomized animals and thus he concluded that the compensatory eye movements are principally due to activation of neck proprioceptors. Even nystagmus, which is usually considered to be a unique phenomenon of vestibular stimulation can also apparently result from neck stimulation.[11]

The contribution which neck proprioceptors make to body balance and orientation was investigated in monkeys and baboons by depriving these animals of the inflow from these receptors and studying the influence which this exerted, if any, upon the normal behavior of the animals.[12] Balance and orientation of six monkeys and four baboons was studied by observing and photographically recording the performance of these animals in a special gymnasium, which contained a vertical ladder, vertical pole, horizontal ladder, trapeze, vertical peg climbing board and adequate floor space for walking. The animals were physically restrained while anesthetic was injected into the cervical dorsal region in order to produce anesthetic block of the C1, C2 and C3 dorsal roots bilaterally. This was usually done by injecting 1.5 cc. of xylocaine in each of two sites (between C1-C2 and C2-C3) on each side of the cord. The animals were then immediately released in the gymnasium and their behavior during the onset of anesthetic block, during the block, and after its disappearance, could all be observed and recorded.

All tested animals demonstrated severe defects in balance and orientation. During walking, the animals were unable to walk in a straight line toward their objective but often staggered and swayed, oftentimes bumping into nearby objects, and walked generally in a manner characteristic of intoxicated humans. They also demonstrated a "floppiness" in the rear portion of their body, occasional head wobbling, and broad base standing reminiscent of cerebellar ataxia. When reaching for objects upon which they had fixed their gaze, they often missed the object completely and had to reach a second or even third time. Apparently the objects were not where the animals thought they were. There were no signs of muscle weakness. Indeed, the movements of the animals seemed quite normal in their execution and were only abnormal in that they were misdirected so that they did not reach their objective, which is what one would expect if the motor system was normal but orientation was severely impaired.

Various controls were employed to help determine whether the anesthetic only affected the C1, 2, 3 dorsal roots. 1) Respiration was always observed since the phrenic motoneurons arise in the ventral portion of the cervical cord. No aberrations in respiratory rhythm were ever noted. 2) Two animals were injected in the usual manner with a mixture of xylocaine and India ink. After observing typical defects the animals were immediately killed and the injection sites were localized and the cervical meninges and cord were examined for staining. In both cases the anesthetic was limited to the area of the C2 and C3 dorsal roots and there was no staining whatsoever on the outer or inner surface of the cervical meninges nor on the surface of the cervical cord. 3) Two animals were subjected to dorsal laminectomies in which the C2, 3 dorsal roots in one animal and the C1, 2, 3 in the other animal were bilaterally sectioned. Following recovery from the trauma of the surgery, the animals were studied in the gymnasium where it was observed that they had similar defects to those which they had demonstrated prior to surgery and following normal injection of anesthetic in the dorsolateral cervical cord. Subsequent histological examination of the cord for Marchi degeneration indicated that the principal damage was what would be expected from C1, 2, 3 section bilaterally, although a minor amount of additional degeneration was also present which probably resulted from manipulation of the cord during the surgical procedure.

The severe deficits in normal balance and orientation which resulted when the afferent inflow from the cervical proprioceptors was impaired constitute by far the most striking results of experiments which the author has conducted on the various proprioceptive mechanisms described in this paper. Indeed, the impairment is every bit as severe and as generalized as are the classical defects following labyrinthectomy.[13,14] Obviously it is no longer correct to speak of the vestibular structure as being the "chief balancing mechanism of the body." This time honored monopoly by the vestibular structure must now give way to a full and apparently equal partner in the form of the neck proprioceptors, for it is now clear in regard to overall body balance and orientation that it is as important to be informed of the position of the head on the body which is the province of the neck proprioceptors as it is to know the position of the head in space which is the duty of the vestibular structures, and impairment of either mechanism will produce major defects in body balance and orientation which are similar in form and magnitude.

This new state of knowledge has obvious clinical implications. Vertigo is a clinical term often used for the symptoms of disorientation and unbalance. In a recent review of the incidence and types of vertigo Cawthorne[15] presented a classification which was noteworthy for our purposes by the absence of any reference to neck mechanisms. Stoddard[16] stated that Cawthorne should have included neck injuries as a cause of peripheral vertigo because Stoddard has had many patients with joint fixation or subluxation, and many of these were relieved from vertigo following manipulation of the cervical joints. Travell[17] reported the existence of a "sternomastoid syndrome of headache and dizziness" which occurred in patients who exhibited spots of soreness and low threshold to pain in usually one of the sternomastoid muscles. Relief of soreness by use of a topical analgesic resulted in the disappearance of the periodic symptoms of dizziness. Travell suggested various possible causes of the dizziness one of which was abnormal firing from neck receptors. Gray[18] also reported 12 cases with dizziness, tinnitus, pain, nausea and sensitive areas in cervical muscles. The symptoms were relieved by infiltrating the sensitive muscles with procaine and massaging. He postulated a hyperactive "posture center" as the cause of the symptoms. Cope and Ryan concluded in a recent paper,[11] "It is shown that among the cases of positional nystagmus of benign paroxysmal type, either idiopathic or as a result of trauma, there are in fact two diseases, otolith disease which has long been recognized, and cervical disease which has only recently received adequate attention." The authors described a "collar test" for clinically differentiating otolith and cervical disease. If the usual symptoms of vertigo and nystagmus occurring during posture change are unaffected during testing with a plaster collar which greatly reduces stimulation of neck proprioceptors, then the symptoms arise from otolith disease. If however the symptoms are diminished during testing with the collar, as the authors found to be true for some patients, this indicates that malfunction of cervical receptors is the cause of the symptoms. There has always been an understandable reluctance to accept clinical studies such as have been described above as evidence that the neck receptors played a specific vital role in overall balance and orientation of the body, because pain can and often does evoke vertigo only indirectly as a result of many non-specific forms of circulatory and nervous system malfunction and, therefore, it may seem unwarranted to ascribe a specific balancing function to the structures which give rise to the pain. Once the special role of the neck proprioceptors in balancing the body has been established by physiological experimentation, the clinical evidence for a specific relationship between aberrant neck sensation and abnormal balance takes on new weight and the clinical and physiological evidence complement each other quite smoothly.

Cutaneous and proprioceptive mechanisms activated by gravity. Very little can be said about the balancing role which is played by those cutaneous and proprioceptive receptors which are stimulated by contact of the organism with the object which is supporting him against gravity. An airplane pilot soon learns that he can orient himself quite well when flying blind by the sensations coming to him from "the seat of his pants." Ordinarily, however, the sensations from the soles of the feet are more important especially in the common and important act of locomotion. Mott and Sherrington[19] showed that monkeys were disoriented in locomotion and climbing if their legs and feet were deafferented. This is the principal study to date on this subject and unfortunately Mott and Sherrington never deafferented only the feet, which would have been a much more critical experiment for our purposes.

In summary, it may be said that information on neck proprioceptors has now established them on a par with vestibular structures in importance as balancing mechanisms, but information in regard to other logical physiological mechanisms is promising but as yet inconclusive.

ACKNOWLEDGMENT

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Opinion Survey And Relative Value Study

It is planned to mail out the official questionnaire booklets for the Opinion Survey immediately after Labor Day, and each member of the Society should receive his or her copy on September 6, 1960. The following "GLOSSARY" has been excerpted from the questionnaire and is published herewith for preliminary study and future reference by all those who will take advantage of this opportunity to make known their personal opinions on a number of professional and socio-economic matters.

W.R.R.

GLOSSARY

1. The Connecticut State Medical Society—Is the Connecticut component state society of the American Medical Association. The Society is made up of eight affiliated county medical associations from the counties of Fairfield, Hartford, Litchfield, Middlesex, New Haven, New London, Tolland and Windham. It is a non-profit organization of over 3,200 members, granted a charter by the Connecticut General Assembly in 1792, which has as its purposes "to federate and bring into one organization the medical profession in Connecticut . . . to extend medical knowledge and advance medical science; to elevate the standards of medical education . . . ; to enlighten and direct public opinion, so that the profession shall become increasingly useful to the public in the prevention and care of disease and in prolonging and adding comfort to life." "The Society is not organized and shall never be maintained and conducted for the pecuniary profit of its members, officers or employees . . ."

2. The Council of the Connecticut State Medical Society—Consists of one Councilor and one Alternate Councilor from each of the eight component county medical associations and the principal officers of the Society (President. President-Elect, Secretary, Treasurer, Delegates to A.M.A., Managing Editor of Journal, Speaker and Vice Speaker of House of Delegates, Councilor-at-Large). The Council has the power to act for the House of Delegates between meetings of that body and must report its actions to the House of Delegates at its next meeting.

3. The House of Delegates of the Connecticut State Medical Society—Is the legislative and business body of the Society and is empowered to carry out the purposes of the Society. Delegates are elected by the eight component county medical associations on the basis of one delegate for every 35 members or fraction thereof.

4. Connecticut Medical Service, Inc.—Is the Connecticut Blue Shield plan and is an affiliate of National Blue Shield Medical Care Plans (see Glossary No. 13). It is a voluntary, non-profit corporation, organized under Connecticut law and supervised by the Commissioner of Insurance. It is a medical care prepayment plan (Blue Shield), the purpose of which is to provide Connecticut people with the opportunity to help prepay for certain services of doctors of medicine when those services may be needed.

5. Corporators of CMS, Inc.—The corporate members of CMS, Inc. consist of sixteen persons of whom eight are licensed doctors of medicine nominated by the Council of the Connecticut State Medical Society and eight are laymen nominated by the Nominating Committee of the Board of Directors of CMS, Inc. (see Glossary No. 6). At least three of the Corporate Members must be CMS policy holders.

6. The Board of Directors of CMS, Inc.—Consists of the Corporators, at least three of whom must be CMS policy holders (see Glossary No. 5). The powers and duties of the Directors are defined as follows: The Board of Directors shall have the general management of the affairs, property and business of the Corporation and, subject to the by-laws, may adopt such rules and regulations for that purpose and for the conduct of its meetings as the Board may deem proper.

7. The Medical Advisory Committee of CMS, Inc.—Is appointed by the CMS Board of Directors and is composed of Participating Physicians (see Glossary No. 8) nominated by the eight component county medical associations of the Connecticut State Medical Society and others nominated jointly by representatives of the Council of the Society (see Glossary No. 2) and of the Board of Directors of CMS, Inc. (see Glossary No. 6). In general, the

Medical Advisory Committee considers and adjusts claims submitted by doctors of medicine for services rendered to CMS members (see Glossary No. 11) and other matters involving the rendering of professional services under CMS contracts (see Glossary No. 12).

It also is assured of having the opportunity of prior review of written or oral contracts which the CMS Corporation may propose making to CMS subscribers or to the public when such representations concern professional or medical matters.

8. Participating Physicians With CMS, Inc.—A Participating Physician is any doctor of medicine licensed to practice medicine in the State of Connecticut who agrees in writing to perform the medical and surgical procedures specified in the Subscribers' Contracts at such rates of compensation as shall be determined by the CMS Board of Directors and who agrees to abide by the Rules and Regulations of the Corporation applicable to participating physicians. One most important aspect of this agreement involves adherence to the "Service Benefits" principle (see Glossary No. 9).

9. The "Service Benefits" Principle—In relation to CMS, Inc. this principle may be described as the acceptance by Participating Physicians (see Glossary No. 8) of a reduced fee or payment schedule so as to provide full payment for the services of doctors of medicine to CMS members (see Glossary No. 11) whose individual, joint or family incomes fall within certain stated limits.

The service benefits principle also applies to other plans, such as Medicare, under which the physician must agree to accept as full payment for his service the allowable amount established by the plan and must further agree not to make any additional charge to the patient for that service.

The service benefits principle has, at present, no application to medical care policies sold by private insurance carriers.

10. CMS, Inc. "Subscriber"—A CMS subscriber is a person who purchases a CMS contract for himself, for himself and spouse or for himself and all dependent members of his immediate family under the age of nineteen years.

11. CMS, Inc. "Member"—A CMS member is any person entitled to receive the services of doctors of medicine under the terms of a Contract purchased by a CMS subscriber (see Glossary No. 10).

12. CMS, Inc. Contract—A CMS contract, among other features, defines the services of doctors of medicine which are covered by the contract and states the income limits under which "Service Benefits" (see Glossary No. 9) are guaranteed when these listed services are provided by a CMS Participating Physician (see Glossary No. 8).

13. National Blue Shield Medical Care Plans—Is a national organization with which most state and territorial Blue Shield plans, including Connecticut Medical Service, Inc., are affiliated. Through its Executive Board it recommends and influences over-all Blue Shield policy, sets and maintains standards for the operation of constituent plans and renders assistance in ironing out problems which may be encountered on the local level by its affiliates.

14. Private Insurance Carrier (Company)—Is an insurance organization which is operated for profit and, in terms of this survey, offers to the public voluntary medical care policies which have, in the past, been sold rather selectively to good insurance risks (experience rating).

Claims for payment for the services of doctors of medicine are considered and adjusted by paid employees of the company, in contrast to the Claims Committee segment of the Medical Advisory Committee of CMS, Inc., members of which are elected as described in Glossary No. 7.

15. Relative Value — A numerical designation which expresses the relationship one professional service bears to another. This designation is made in "units" or "points"; *never* in dollars.

16. Relative Value Nomenclature—The uniform description of medical, surgical, radiological and pathological services, each described service being assigned a code number. Efforts are being made to establish national standards of nomenclature so that all physicians everywhere will recognize each listed service by its description and a code number.

17. Relative Value Study—By means of submitting a nomenclature, in questionnaire form, to all physicians engaged in providing medical services in a defined geographical area, it is determined from the returned information how much physicians who perform the listed services usually and customarily charge, i.e., their usual and customary fees for services.

By a statistical analysis of the dollar values submitted, the *unit* or *point* value of each service is calculated, using some basic service such as a routine office visit as one (1) unit.

18. Relative Value Schedule or Scale — Upon completion of a relative value study and an analysis of the returns, a complete list of all medical services is compiled. Each service has a code number, a standard description (nomenclature) and a value expressed in units. No dollar values are listed and this is *definitely not* a "fee" schedule or scale.

19. Payment Schedule—A payment schedule is a listing of the services covered by an insurance company or prepayment plan policy and the amount of money which will be paid for each listed service by the company on behalf of the policyholder or his authorized dependents. By common usage, a payment schedule is often called a "fee" schedule, but this is a misnomer since the allowable "payment" does not necessarily have any relationship to a practitioner's usual and customary fee.

20. Fee Schedule—A fee schedule exists only when a majority of doctors of medicine who practice in a given geographical area have agreed (usually through their local medical organization) to set fixed levels of compensation for their services. Under these circumstances, the payment schedule (Glossary No. 19) of any insuring agency which is in accordance with these fixed standards of compensation may, in fact, be referred to as a "fee" schedule.

21. Claims Committee—The claims committee of a private insurance carrier may not be a "committee" as such, but may be one or more individuals who are experienced in the manner in which medical services are usually rendered and are informed as to the charges usually made for those services by doctors of medicine who practice in the geographical area concerned. In general, their function is to evaluate the "need" for the service rendered and the "reasonableness" of the charge made for it by the doctor submitting the claim.

As indicated in Glossary No. 7, a segment of the CMS Medical Advisory Committee acts in this capacity for Connecticut Medical Service, Inc.

22. Dollar Coefficient—When a Relative Value Scale is applied to a payment schedule of an insuring agency for the purpose of properly relating the listed services or procedures in terms of time, skill and knowledge, "units" are employed as described in Glossary Nos. 15 and 18.

If the Relative Value Scale is also to be used to determine the amount of money which will be paid by the company for each listed service or procedure, a dollar value must be assigned to a "unit" of service. For example, if $5 is the value assigned to a "unit" of service (Glossary No. 15), and if Procedure X equals 30 units of service, then $150 will be paid by the company for Procedure X. The monetary value assigned to a unit of service is called the "dollar coefficient."

23. Liaison Committee Between Connecticut Medical Service, Inc and the Connecticut State Medical Society—This joint committee is composed of representatives of the Connecticut State Medical Society who are members of the Council (Glossary No. 2) and representatives of the Board of Directors of Connecticut Medical Service, Inc. (Glossary No. 6). The representatives of the two organizations meet periodically to exchange information of mutual interest and to advise with each other on matters which are directly or indirectly related to the policies and contracts of Connecticut Medical Service, Inc. Neither group of representatives is authorized to reach any agreements which would commit their respective corporations to approve new policies or contracts or changes in existing policies or contracts. The function of the committee is solely that of liaison, and approval or disapproval of any conclusions which may be drawn by the committee remains entirely within the province and authority of the two parent organizations.

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Editorials

IMPORTANT

Opinion Survey Questionnaire

In the latter part of the month the Opinion Survey Questionnaire which has been in process for more than a year will be mailed out to every member of the Connecticut State Medical Society.

The questions posed in this survey have been carefully worded after many revisions to clearly indicate the information desired by your Society to enable your Society officers and committees to express the attitude of the medical profession to the public and organizations with which they have to deal in matters affecting the practice of medicine.

It is therefore important that every member of the State Society carefully read, thoughtfully answer and promptly return his questionnaire in the self-addressed envelope accompanying the questionnaire.

A glossary of terms used in the questionnaire accompanies each questionnaire so there can be no misunderstanding concerning the meaning of those terms.

Each member of the Society has this opportunity to express himself regarding matters of basic importance to him in his professional life.

Connecticut Medicine therefore urges the members of the Society to take advantage of this opportunity to voice their opinion on the basic matters with which the survey is concerned.

D.S. O'C.

Hazards Associated With Beneficial Discoveries

"Read, mark, learn and inwardly digest"

THE BOOK OF COMMON PRAYER

Those of us who were working in the old "horse and buggy" days no doubt recognized that some modern inventions, even though they were in the main beneficial, were associated with dangerous side-effects. The obvious one, which must come to mind even to laymen, is SMOG and its relation to exhaust fumes from automobiles.

In a recent editorial* Professor DuShane, the Editor of Science, points out that about four to five hundred new chemicals are put into use each year, the preparation of some of which creates *volatile waste-products* which are toxic, and that some harmful physical agencies, notably x-rays, are now used not only in medicine but also in industry. As a matter of fact most of the early x-ray men are dead, many because they failed to recognize the hazards of exposure.

As Professor DuShane points out various hazards may affect our citizens in "the water they drink, the food they eat, and the shelters which protect them."

The important question is what can be done about it? The problem is already being studied by a variety of scientists under the direction of Leroy E. Burney, the Surgeon-General, but he has come to recognize that the existing organization is too loose and also that many of the public do not recognize these environmental problems because, as he says, they lack *drama* or *impact*. He suggests the development of a specific "Environmental Health Unit" within the Public Health Service, and education of Congress and the general public in the necessity for providing financial aid to such an organization. As physicians we should be more conscious of the problem and of the necessity of educating the authorities and the public of the need for increased financial support.

G.B.

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* Graham DuShane, Science, Vol. 131, No. 3409, April 29, 1960.

The Internist In The Surgical Team

Nowhere in the field of medicine is the art and judgment of the physician called upon more than in the preoperative evaluation of the patient. More extensive operations performed on an older age group have made preoperative medical consultation an increasingly important field of activity for the internist. The reasons for the consultation are threefold; namely to determine the advisability of the surgical procedure planned, the risks entailed in this procedure, and finally, special tests and procedures to prepare the patient for the stresses he is about to face.

The initial reason for the consultation gives the internist a chance to investigate for underlying disease. For example, cirrhosis with ascites as the underlying cause for herniae or hemorrhoids; or chronic pulmonary emphysema as the cause for hernia is well known. The internist acts as an ex-officio member of the surgical team in this respect, endorsing the planned surgical approach or suggesting another plan of attack.

The evaluation of the risk of a planned surgical procedure is a statistical guessing game which is well documented in percentages, but exceedingly difficult to judge for an individual patient since the variables of the surgeon's skill, the anesthetic agents administered, and the anesthetist cannot always be adequately evaluated. The preoperative diagnosis is of prime importance. Obviously with an elective procedure, the calculated risk should be low, less than one per cent. On the other hand an emergency procedure allows a greater risk because of its own urgency. The bleeding ulcer with complicating cardiovascular or pulmonary disease should be passed for operation even sooner than the one without these complicating factors. The patient with a malignancy can be passed even though the risk implied is great since his only hope for survival is a radical, and therefore a more risky approach.

Preoperative preparation is an equally important facet in the surgical patient and is an integral part of the evaluation since proper preparation reduces the risk. The preparation of the respiratory cripple, for example, necessitates the use of expectorants and bronchodilators. The borderline cardiace would benefit with digitalization and proper diuresis; the renal patient by proper electrolyte and fluid administration; the cirrhotic by the use of alimentary antibiotics, and the diabetic by proper regulation of the diabetes. The medications which the patient has been taking preoperatively become very important particularly from the standpoint of the anesthetic agents administered. Reserpine, promazine and other tranquilizing agents may be associated with severe hypotensive states during and after anesthesia, and they should be discontinued for a week or more preoperatively, if at all possible. Patients on adrenocortical steroids for various reasons will require appreciably larger doses during and following the surgical procedure.

As in other fields of medical practice, preoperative evaluation begins with a history and physical examination which is all important. Certain laboratory examinations should be performed routinely, a complete blood count and urinalysis. In addition, the non-protein nitrogen and blood urea nitrogen as well as a fasting blood sugar determination is exceedingly important. There are a large number of other procedures which should be performed when physical or historical findings so warrant them. For example all hypertensive patients as well as those with heart murmurs should have an electrocardiogram. Patients with pulmonary findings such as cough or wheezing should have a chest roentgenogram and a timed vital capacity determination. The patient with urinary findings of any abnormal type should have a urine bacteria count and culture with sensitivity tests preoperatively. The diabetic and nephritic should have complete electrolyte studies preoperatively as well as postoperatively.

An equally important need in the preoperative care of the patient is for the internist to acquaint himself with the exact details of the planned procedure. The internist should have some experience in knowing the technical aspects of a Miles resection. For example, he should realize how long the procedure will take; how the patient is to be positioned; and the amount of blood loss involved. He should also have good rapport with the anesthetist since he may be helpful in deciding the choice of anesthesia in a given patient, particularly if the patient happens to have a pulmonary or vascular problem.

The internist has a very challenging and stimulating field in his preoperative care of the surgical patient. This field approaches the aims of public health in some degree in that he deals with statistics in an attempt to practice prophylaxis in addition to evaluating the complete patient and suggesting alternative courses of treatment to the surgeon and also to the anesthetist. It is the internist who acts as the family physician of old and ties together the knowledge of the entire patient as well as its relation to the specific surgical problem at hand.

J.S.G.

The Radioactivity Of Normal Human Beings

" 'Tis strange, 'tis very strange"

SHAKESPEARE—*All's well that ends well.*

It is common knowledge among those interested in occupational diseases that operatives exposed to radium, x-rays, and radioactive substances such as pitchblende, are liable to develop certain lesions. Many of the early radiologists died of cancer, largely because they failed to take adequate protective measures. The fate of the women who in painting the faces of watches with radium paint moistened their brushes with their lips is well-known. We have long been cognizant of the fact that many workers in the pitchblende mines of Saxony die of lung cancer. Even laymen are aware of the effects of the atom bomb exploded at Hiroshima and, more recently, of the contamination of Japanese fishermen resulting from the testing of atom and hydrogen bombs.

In general, contamination of the human body with radioactive substances in sufficient doses may result in cancer, in cataract, in damage to the bone marrow with defective blood formation, in injury to the central nervous system, and in genetic damage.

In recent years there have appeared several reports on the emission of gamma rays by human beings who had not been exposed to radioactive substances.[1] In the cases reported by Burch and Spiers from the large industrial city of Leeds, England three groups of subjects were examined: (1) eleven male and three female medical students, resident locally, aged 19 to 20 years; (2) males of widely scattered residence (mostly in England) aged 26 to 41 years (average 34 years); (3) four males, resident locally, aged 60 to 79 years (average 70 years). No individual in any of the groups had any known occupational or therapeutic exposure to radioactive materials. All of these subjects showed evidence of gamma radiation and, from the results of antecedent work by other experimenters, Burch and Spiers concluded that this was associated with the potassium content of the body. The degree of radioactivity did not appear to vary with age "within the rather wide limits of experimental error and biological variability."

A. T. Krebs, who had published an article on the subject in Science earlier in the year,[2] states that while the observations of Burch and Spiers clarify his article in some respects, they also point up the complexity of the problem. He states that substances other than potassium may emit gamma rays and that various physiological conditions, notably posture, influence their output. He shows that there are differences of opinion as to the effect of age on gamma ray excretion and that investigators disagree as to the tolerance of the body to the dosage of radioactive substances. Considering the great variability of human beings in their reaction to noxious agencies of all kinds, it seems to the writer unlikely that clear cut figures as to damaging dosage of radioactive substances can be established. The only thing that can safely be predicted about human beings is that they are unpredictable.

However, it is clear that while radioactivity in normal human beings may not be generally known, any competent physicist would be aware of it since he is cognizant of the natural activity of potassium and doubtless knows that this substance is a constituent of all living creatures. It is also certain that the level of radioactivity is very weak. When we recall that certain human organs give off measurable amounts of electricity which are used for diagnostic purposes in electrocardiography and electroencephalography, it is perhaps not extraordinary that the body also exhibits radioactivity and that interest in this branch of physics is being reactivated. It seems clear that the phenomenon has nothing to do with the testing of radioactive weapons and that the level of human dosage is so low that any pathological effect is highly improbable.

G.B.

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[1] For literature see: Radioactivity of the Human Being, P. R. J. Burch and F. W. Spiers, Science, 1954, *120*, p. 719 and A. T. Krebs same issue p. 720.

[2] Science, 1954, *119*, 429.

Who Should Prescribe What?

A recent article appearing in CONNECTICUT MEDICINE[1] on the use of griseofulvin therapy in superficial fungus diseases properly indicated its value in certain of these mycoses and also called attention to its complete ineffectiveness in other superficial and deep fungus diseases. The author rightly placed emphasis on the adverse effects of this antibiotic which, in his own experience and that of others, had been relatively infrequent and mild up to the time his article went to press.

At about the same time, however, other reports of more serious side effects began to appear in the literature.[2,3,4] It is curious how history tends to repeat itself as illustrated in the case of many other antibiotics and chemotherapeutic drugs which, after long periods of apparently safe usage, began to evidence their ability to produce serious and even fatal reactions.

It is, therefore, highly necessary to restrict the use of such medications to the doctor of medicine who, by training and experience, is alone capable of diagnosing and treating the diseases in which these therapeutic agents are indicated, and who is able also to cope with the bizarre and serious reactions and side effects the moment they arise. The employment of potent systemically acting drugs should not be placed in the hands of those who cannot treat the "whole patient." It is fortunate for the citizens of Connecticut that the office of the Attorney General has seen fit recently to render such an opinion.

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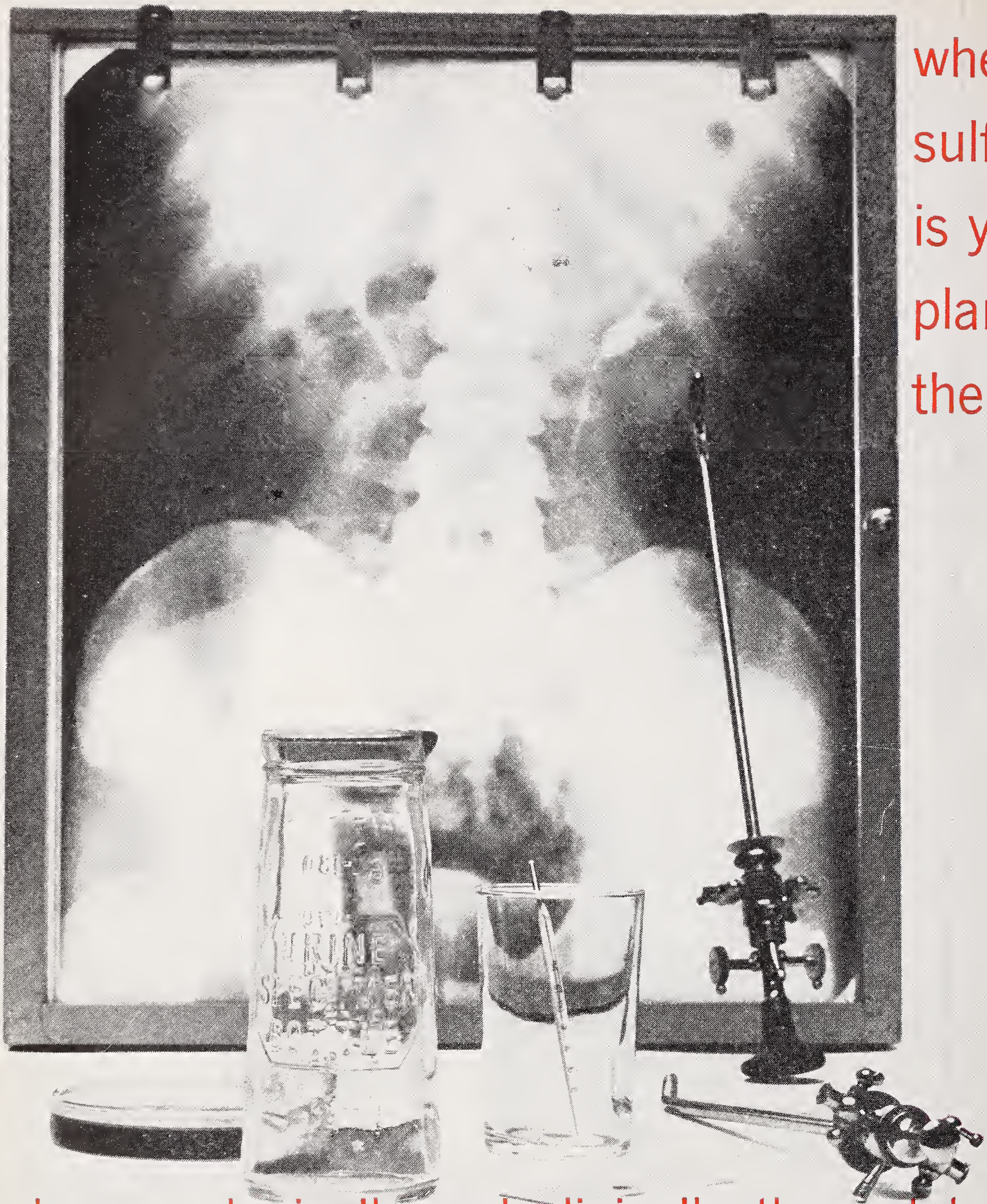

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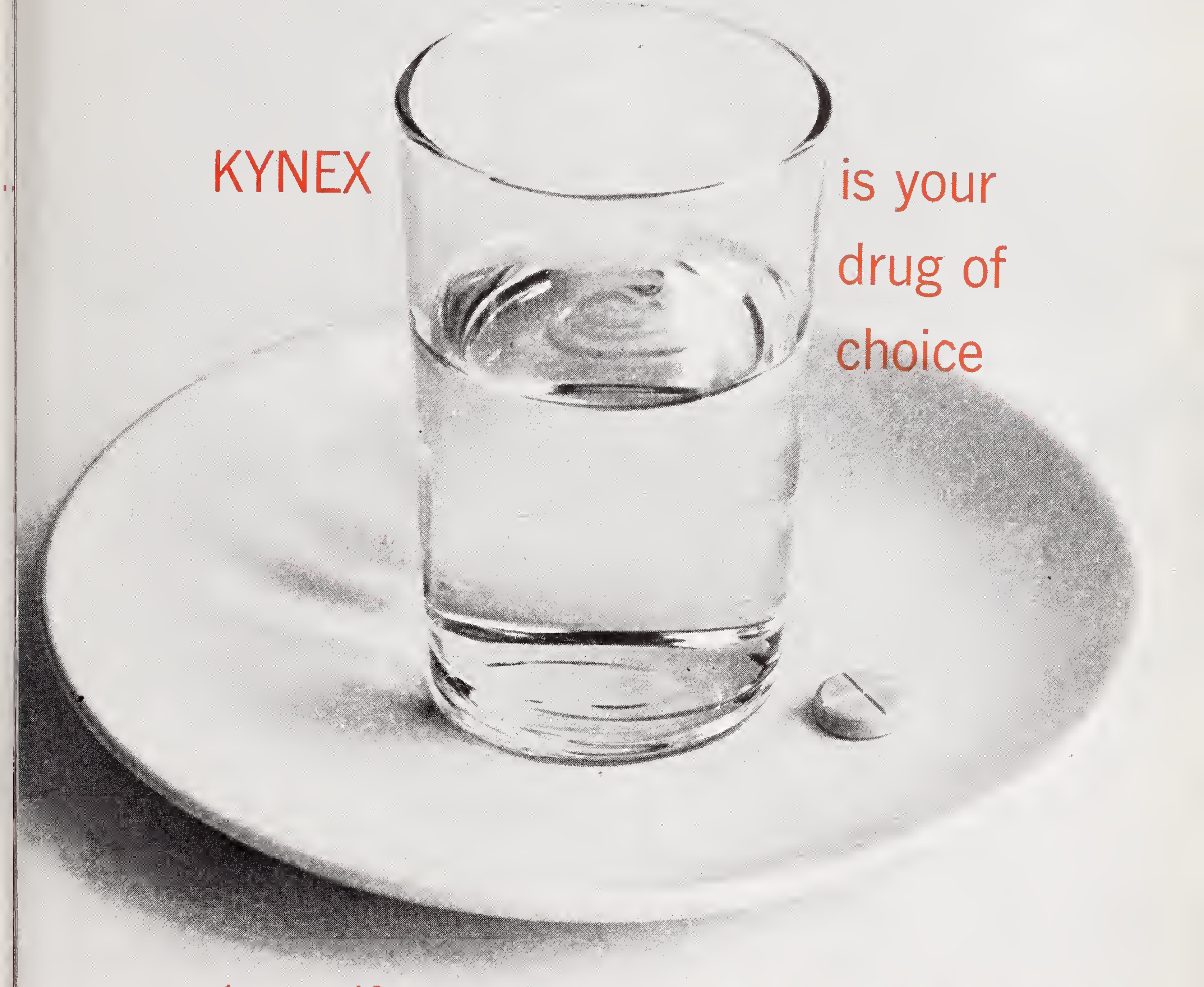

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THE PRESIDENT'S PAGE

The AMA House of Delegates in mid-June adopted resolutions which in essence declared that when an individual or his family is unable to meet the costs of his own medical needs, the community has the primary responsibility for sharing in the costs; where the community and/or the county is unable to meet these obligations, the state has a responsibility; and only as a last resort is federal government participation (administered locally) warranted. So long as this ascending order is brought into play, freedom of choice is preserved and local control is maintained, the AMA asserted that the use of tax funds to pay for such care, directly or through insurance purchasing, is inherent in this concept and not inconsistent with AMA policy.

As I perused the reports of these actions, I could not help recalling the comments of a Connecticut labor union official, during one of the hearings on health care of the aged in this state, when I asked him: "Why do you fellows think a federal dollar would be cheaper than a state or a municipal dollar in helping to pay for medical care?" He answered quite simply: "Which is cheaper has nothing to do with it. The federal government can get the dollar; the others can't." This answer stimulated me to study some up-to-date literature on public finance.

I learned, to my surprise, that of the three major levels of government—federal, state, and local—the states have always been the least important with respect to government expenditure. Prior to World War I, local governments ranked first. Since that time federal revenue collection and expenditure have zoomed astronomically, far outstripping combined local and state expenditure.

Old-time socialists thought that government ownership of productive resources was essential to bring about an equalization of income, cradle-to-grave welfare services, and other features which the socialists felt were needed to increase the well-being of the less privileged classes. The modern exponent of the "new deal", "fair deal" or "people's capitalism" is bringing about the same "benefits", not by collective ownership but by *collective consumption* financed by steeply progressive income and estate tax rates and by direct and indirect taxation for specified purposes. Most corporate production is still privately owned but Uncle Sam takes more than half the profits and then takes an additional cut from the dividends paid the stockholders. We are consuming more and more of our national goods and services collectively rather than through private individual money purchases (e.g., federal funds for highway construction, municipal redevelopment, agricultural resources, natural resources, veterans' services and benefits, among many others).

Inevitably, this biggest of all customers, the federal government, has seen to it that "the customer is always right" by imposing more and more controls. While our *political* freedom is relatively intact, our *economic* freedom today is subject to a great deal of limitation.

These facts of life must be kept clearly in mind as organized medicine strives to hold to the ascending order of the use of tax funds set forth in the mid-June AMA statement. The objective is laudable; its attainment won't be easy.

John N. Gallivan, M.D.

FROM THE GENERAL MANAGER'S OFFICE

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THE SOCIETY'S OPINION SURVEY

On April 27, 1959, the House of Delegates of the Connecticut State Medical Society voted to direct the Council to conduct an opinion survey among the members of the Society. It was declared at that time that the survey was to be made for the purpose of "establishing positive medical policies designed to aid all Third Party agencies in the development of fair and equitable plans which will provide prepayment for physicians' services."

Implementing this directive of the House, the Council promptly appointed a subcommittee of its members which, working with the Society's Committee on Third Party Payments, spent a great deal of time during the next eight months in carefully drafting a suitable questionnaire by which to make this study of professional opinion. Upon completion of its assigned task, and upon further direction of the House of Delegates in December, 1959, the group turned over the fruits of its labors to the consulting firm of Rogers, Slade and Hill of New York City for processing.

Working in cooperation with the General Manager's office, the original questionnaire has been reworded, revised and streamlined by Rogers, Slade and Hill in such a way as to assure that the Opinion Survey will be conducted in a properly unbiased and professional manner, and that the results of the analysis will be valid. However, the meaning of the subcommittee's original text remains unaltered and the final draft was approved by the subcommittee on June 23, 1960.

Immediately after Labor Day, every member of the Society will be mailed an official questionnaire booklet and, as stated in the Foreword, each will be urged to "take advantage of the opportunity to participate in this Opinion Survey and . . . give thoughtful and mature responses to the questions. . . ."

The mechanics of this general mailing will be rather complicated because it is the wish of the Opinion Survey Subcommittee to assure the anonymity of each and every respondent. To carry out this important part of the project is the responsibility of the office staff at St. Ronan Street.

The *really big* problem, however, will be to assure the completion and return of the questionnaires for analysis and study. This is the personal responsibility of each member of the Society who is eligible to participate. A return of 40% or so will establish the validity of the results but a return of closer to 100% will do much more than firm up statistics. Wholehearted participation by the entire membership will give lie to the oft-voiced contentions that doctors are not aware of the rapidly changing socio-economic patterns in America today and, even worse, that they are not interested in them. Events in Connecticut during the past several years have indicated that such charges are untrue. This is our chance to prove it!

COUNCIL MEETING

Thursday, June 23, 1960

A meeting of the Council was called to order by the Chairman, Dr. Gilman at 3:00 P.M. on Thursday, June 23, 1960. Present in addition to the Chairman were Drs. Gallivan, Feeney, Hess, O'Connor, Caplan, Cullen, Gardner, Scully, Abbot, Weise, Cornwell, Katzin, Buckley, Rentsch, Murray, Gorman, Pollock, Gevalt, Phillips and Purnell. Absent were Drs. Goldberg, Bradley, Schiavetti, Grant, Davis and Chartier. Also present: W. R. Richards, General Manager.

MINUTES OF MEETING, MAY 11, 1960. The printed minutes of the Council meeting of May 11, 1960 were approved.

COMMITTEE ON MEDICAL ECONOMICS AND INSURANCE. It was voted to authorize the payment of the expenses, in the amount of $75, of M. David Deren, Bridgeport, which were incurred by his attendance at two meetings of the Committee on Medical Economics and Insurance of the New England Council of State Medical Societies. Dr. Deren is Chairman of this committee of the New England Council.

In taking this action there was general agreement that it should *not* be interpreted as setting a precedent for payment of any or all of the expenses of members of the Society who may serve in official capacity with organizations which are not directly associated with the Society. It was pointed out that because of a 1959 action of the New England Council, as many as 30 or 40 "representatives" of the Society might be asked to attend meetings of that organization and that there were no budgetary provisions to reimburse these representatives. Ellwood C. Weise, Sr., Bridgeport, Chairman of the Ad Hoc Committee to Review and Re-examine the Relationship of the Connecticut State Medical Society with the New England Council of State Medical Societies, assured the Council that this would be one of the matters considered by his committee at an early meeting.

JAYCEE OPERATION DOCTOR. On a proposed program, sponsored by the Connecticut Junior Chamber of Commerce, which would enlist the cooperation of the physicians of the state in donating unused samples of medication to a collection pool for distribution abroad to needy persons, it was VOTED to endorse such a program provided the Woman's Auxiliary to the Connecticut State Medical Society is permitted to cooperate in the collection of these drug samples.

It was pointed out that this program had the approval of pharmaceutical companies and that collection and shipment of these drugs overseas would be accomplished without charge.

EDITORIAL BOARD OF JOURNAL. It was VOTED to accept the resignation of Malcolm M. Ellison, New London from the Editorial Board of the Journal. It was further VOTED to appoint Hugh F. Lena, Jr., New London, to complete Dr. Ellison's unexpired term on the Editorial Board.

COMMITTEE ON PUBLIC RELATIONS. It was VOTED to accept the resignation of E. Tremain Bradley, South Norwalk, as Chairman of the Committee on Public Relations. Dr. Bradley will remain on the committee as a member.

It was further VOTED to appoint Nathaniel Selleck, Danbury, to complete Dr. Bradley's unexpired term as Chairman of this committee.

JOINT CONFERENCE COMMITTEE WITH CONN. PHARMACEUTICAL ASSOCIATION. A letter of resignation as a member of this committee was received from Benjamin Katzin, Torrington, who had recently resigned as Chairman of this committee. Upon becoming aware that Walter J. Keefe, Hartford, recently appointed to succeed Dr. Katzin as Chairman, was seriously ill, Dr. Katzin withdrew his letter of resignation.

ADVISORY COMMITTEE ON MEDICARE PLAN. It was VOTED to accept the resignation of R. Bruce Thayer, Jr., Hazardville, as a member of this committee. The Chairman assured the Council that he would seek a recommendation from the Tolland County Medical Association regarding a suitable replacement for Dr. Thayer on this committee.

COMMITTEE ON STATE BLOOD BANK. It was VOTED to accept the resignation of Theodore S. Evans, New Haven, as a member of this committee.

COMMITTEE ON THE AMERICAN MEDICAL EDUCATION FOUNDATION. It was VOTED to appoint Stewart J. Petrie, Ansonia, new Chairman of the New Haven County AMEF Committee, to complete the unexpired term of Orvan W. Hess, New Haven, resigned.

COMMITTEE ON PUBLIC HEALTH. On the recommendation of Stanley H. Osborn, Chairman, it was VOTED to appoint Earle K. Borman, Ph.D., Hartford, an Associate Member, as a consultant to this committee.

COMMITTEE ON POSTGRADUATE EDUCATION. On the recommendation of Arthur Ebbert, Jr., New Haven, Chairman of this committee, it was VOTED to approve the holding of a second symposium on medical education to be held in November 1960. This symposium is jointly sponsored and financed by the Connecticut Hospital Association, Yale University School of Medicine and the Connecticut State Medical Society. It was further VOTED to authorize the expenditure of up to $250 as the Society's share of the expenses.

VETERANS ADMINISTRATION "FEE SCHEDULE." The entire question of the payment schedule of the Veterans Administration for 1960-1961 was reviewed. Letters from Francis J. Ryan, Director of the VA Outpatient Clinic, George A. Buckhout, Chairman of the Committee on Medical Care of Veterans, and Max Alpert, Chairman of the Committee on Third Party Payments, were presented. After full discussion, it was VOTED to accept the recommendations of the Committee on Third Party Payments as follows:

1. That the VA payment schedule for 1960-1961, which has been negotiated by the Committee on Medical Care of Veterans, be approved.

2. That in future years the Committee on Medical Care of Veterans negotiate payment schedules at as early a date as possible in order that such payment schedules may be reviewed by and transmitted through the Committee on Third Party Payments to the Council for approval.

RESOLUTION RE VETERANS ADMINISTRATION PROGRAM. Implementing the Report of the Committee on Medical Care of Veterans which was presented to the House of Delegates on April 26, 1960, the following resolution was drafted and sent to Connecticut legislators, the American Medical Association, all other state medical societies and appropriate committees of the Society:—

"WHEREAS: It is reported that more than eight out of ten veterans presently receiving medical care at Veterans Administration clinics do not suffer from service connected disabilities, and

WHEREAS: It seems doubtful that any substantial number of those veterans being so treated for non-service connected disabilities are, in fact, medically indigent, and

WHEREAS: Veterans Administration hospitals are increasing their bed space and are funnelling off ever larger numbers of patients, who are veterans, from local voluntary hospitals where they should properly receive necessary hospital care, and

WHEREAS: These practices are being pursued by the Veterans Administration, in part at least, for the purpose of providing a greater volume of acute and sub-acute cases with which to meet the needs of its extensive residency training programs, and

WHEREAS: These abuses and practices of the Veterans Administration's medical facilities, if continued, will completely disrupt the 'Home Town Care' program, tend to establish veterans as 'special privilege' citizens, create further staffing problems for our voluntary hospitals and increase greatly the cost of the VA medical care operation to the taxpayers, therefore be it

RESOLVED: That the Committee on Medical Care of Veterans of the Connecticut State Medical Society call upon the Congress of the United States to make a study of the Veterans Medical Care Program, particularly in regard to its intended scope of service to veterans, its apparent abuses in the matter of treatment of non-service connected disabilities, its disruptive influence on the 'Home Town Care' plan, its long-range injurious effects on the resident training programs of our voluntary hospitals, its tendency to establish veterans as 'special privilege' citizens and its unnecessarily high cost, and be it further

RESOLVED: That the Committee on Medical Care of Veterans of the Connecticut State Medical Society recommend that the Congress take such action as will limit Federal medical care of veterans to those suffering from service connected disabilities, and be it further

RESOLVED: That the Committee on Medical Care of Veterans of the Connecticut State Medical Society recommend to the Congress that veterans who are suffering from non-service connected disabilities and who are medically indigent receive their needed medical care through local and state assistance agencies as does the indigent public at large, and be it further

RESOLVED: That the Committee on Medical Care of Veterans of the Connecticut State Medical Society transmit this resolution to similar committees of the other state medical societies and to the American Medical Association for the purpose of joining with these organizations in seeking to bring about a study of these matters by the Congress and appropriate corrective actions based on this study."

It was VOTED to accept this resolution as information.

REFUND OF DUES FOR RALPH J. SZUR, BRIDGEPORT. Relative to the matter of refunding dues for Ralph J. Szur, Bridgeport, deceased April 17, 1960, only a few weeks following payment of his county, state and AMA dues, it was VOTED to take the following action:

1. That Dr. Szur's dues for the current year be refunded from the Society on a pro rata basis.

2. That it be recommended that the AMA take similar action regarding AMA dues, and

3. That the Fairfield County Medical Association be advised of this action of the Council.

RESOLUTION RE CREIGHTON BARKER, M.D., DECEASED. In compliance with the direction of the Council on May 11, 1960, Drs. Gardner, Buckley and O'Connor presented the following resolution relative to Creighton Barker, M.D., deceased.

"WHEREAS: Dr. Creighton Barker served the Connecticut State Medical Society from 1936 to 1958 as the first full-time Executive Secretary, and

WHEREAS: During this period, his devotion to the ideals of the Medical Society and his wise counselling in its deliberations contributed greatly to its steady growth, and

WHEREAS: He willingly gave of his time and energies to numerous paramedical affairs which redounded to the credit of Connecticut medicine, and

WHEREAS: He served with distinction in the affairs of the American Medical Association as a representative of the Connecticut State Medical Society, BE IT THEREFORE RESOLVED: That the Connecticut State Medical Society, through its Council, expresses it sense of loss on the occasion of his death, April 8, 1960, and

BE IT FURTHER RESOLVED: That a copy of this resolution be made a part of the minutes of the Council and a copy be sent to his family."

It was VOTED unanimously to adopt this resolution and it was further VOTED that it be suitably scrolled and presented to Dr. Barker's family.

PENSION FOR CREIGHTON BARKER, M.D., DECEASED. In compliance with the action of the Council, taken on May 11, 1960, the Pension Committee, John N. Gallivan, East Hartford, Chairman, made the following recommendation with respect to the pension accorded Dr. Barker on his retirement August 1, 1958 and which ceased upon his death April 8, 1960.

"That Mrs. Juliette Beach Barker, widow of the late Creighton Barker, M.D., be paid from out-of-pocket Connecticut State Medical Society funds a benefit of two hundred fifty dollars ($250.00) per month, such benefit to commence with the month of July 1960 and to continue during the lifetime of the said Mrs. Barker."

It was VOTED to accept this recommendation of the Pension Committee, consisting of Drs. Gallivan, Goldberg and Hess.

REPORT OF AD HOC COMMITTEE TO REVIEW AND REEXAMINE THE SOCIETY'S RELATIONSHIP WITH THE COUNCIL OF NEW ENGLAND STATE MEDICAL SOCIETIES. Ellwood C. Weise, Sr., Bridgeport, Chairman of this committee, gave a progress report on the activities of the committee. He announced that although no meetings had yet been held, he was gathering a number of informational background materials which would enable the committee to review and examine the Society's relationship with the New England Council. It was VOTED to accept Dr. Weise's progress report.

RESOLUTION RE LABORATORY ANIMALS. In compliance with a request of an ad hoc committee composed of members of the faculty of the Yale University School of Medicine and others, it was VOTED to adopt the following resolution as expressing the Society's opinion relative to the supply, sale, purchase, treatment and use of laboratory animals.

"BE IT RESOLVED: That the Council of the Connecticut State Medical Society recognize the need for a continuing supply of laboratory animals to be used for medical research purposes under responsible and competent supervision, and be it further

RESOLVED: That the Council strongly recommend that, through periodic inspections by the State Health Department, a high order of feeding, housing and generally humane treatment of all laboratory animals be maintained, and be it further

RESOLVED: That the Council recommend that all transactions between those who obtain or purchase laboratory animals and those who supply or sell them be humane and in compliance with appropriate statutes which shall assure a continuing supply of needed laboratory animals."

CONNECTICUT MEDICAL SERVICE, INC. (A) The members of the Council had been provided with a memorandum from Connecticut Medical Service, Inc. with respect to the assumption of the role by CMS of Fiscal Agent for the Federal Employees Health Benefits Program. Accompanying this memorandum was the draft of a proposed letter which CMS plans to distribute to each licensed physician in the state so as to inform him of the role CMS will play in administering this program in Connecticut. It was VOTED to approve the content of the physician-memorandum and to authorize its publication in the Journal for the information of all members of the Society.

(B) Allan J. Ryan, Meriden, Chairman of the CMS Medical Advisory Committee and Louis C. Backhus, Waterbury, a member of that CMS committee, joined the Council to consider recent Medical Advisory Committee activities as reflected in a report submitted by Dr. Backhus to the Board of Governors of the New Haven County Medical Association on May 19, 1960. The New Haven Board of Governors had voted to refer this report to the Council and to request that Drs. Ryan and Backhus attend the meeting for the purpose of discussing the report. The essential matters referred to by Dr. Backhus concerned the proper relationship of the members of the MAC to the CMS Board of Directors, to the component county medical associations which nominated them for election and to the Council and House of Delegates of the Connecticut State Medical Society. There was general agreement that the members of the MAC should be responsive to members of the county medical associations and should continue to be fully informed of pertinent actions of the House of Delegates but that they also had a responsibility to cooperate in drafting and revising CMS contracts in accordance with the policy directives of the CMS Board. There was discussed a possible area of conflict among members of the MAC between *drafting* new contracts with specific income levels at the direction of the Board and *approving* such contracts or having it implied that they approved these contracts. There were many points of view expressed in this matter but no decision was reached.

There seemed to be general agreement that there is no provision for the Council to have direct liaison with the MAC, the Joint CMS-CSMS Liaison Committee being the only authorized mechanism through which the discussion of matters of mutual interest can be conducted between CMS and the Council. Although it was felt that Dr. Backhus' report had served an admirable purpose and once again demonstrated that liaison between the CMS organization and the members of the Society should be maintained at a high level, no action was taken by the Council on the report. The opinion was expressed by a number of the participants in the discussion that the members of the MAC are making a determined effort to develop sound and equitable contracts and that they should be encouraged by all concerned to continue their work in an atmosphere devoid of undue pressure or influence from any source.

(C) A progress report on consideration by the CMS Medical Advisory Committee and the Board of Directors of a resolution from the Section on Orthopedics was submitted by Louis F. Middlebrook, Jr., President of CMS, Inc. The report, approved by the MAC and the CMS Board, concluded ". . . the subcommittee feels that it would be impossible for CMS to establish a policy of not extending coverage of professional services to others than those rendered by duly registered physicians. The subcommittee, after due study, will offer a plan which, it hopes, will resolve the impasse to the satisfaction of all parties concerned."

NURSING NEEDS AND RESOURCES IN CONNECTICUT. At the Council meeting of May 11, 1960, it was VOTED to defer action on this document, which had been prepared by the Joint Commission for Improvement of the Care of the Patient, until further information became available. D. Dillon Reidy, Hartford, a member of the Joint Commission, joined the Council and explained the significance of the study and the importance of the recommendations which had been made by the Joint Commission. After considerable discussion, it was VOTED to accept the following recommendation of Dr. Reidy.

"Approve work done by the Joint Commission in its study of the nursing resources of Connecticut and the future and present needs.

Approve the recommendations of the Joint Commission for further studies in the suggested area of greatest need.

Approve the continuance of representation of the Connecticut State Medical Society on the Joint Commission.

Indicate the willingness of the Society to aid in the suggested studies, wherever the talents and experiences of our committees might be of value."

It was further VOTED to notify all of the organizations which make up the Joint Commission on the Improvement of the Care of the Patient of this action.

REPORT OF DELEGATES TO THE AMA. James R. Cullen, Hartford, Norman H. Gardner, East Hampton and Max Caplan, Meriden, Delegates to the American Medical Association, jointly presented a number of significant actions taken by the House of Delegates of the AMA at its meeting in Miami, June 13-17, 1960. These reports were received as information, it being understood that through the JAMA and AMA News, these various actions will be presented in detail to all AMA members.

SUB-COMMITTEE ON HEALTH, WHITE HOUSE CONFERENCE ON AGING. Ralph L. Gilman, Chairman, reported that he and the President, Dr. Gallivan, had met with Cole B. Gibson, Meriden and Harold S. Barrett, Hartford, on June 2, 1960, the latter being representatives of the Sub-committee on Health of the Connecticut Advisory Committee for the White House Conference on Aging. Dr. Gilman concluded his report as follows:

"Throughout the report, there is a deliberate avoidance of any recommendations of specific legislative action for financing these activities.

"If the approaches outlined to your subcommittee by Drs. Gibson and Barrett become in fact the approaches of the entire Governor's Committee, your subcommittee feels that the physicians of Connecticut would endorse them as useful positive approaches for the care of the Aging and Aged. They are a welcome change from wasteful, inefficient and undesirable schemes which have been and are being advocated by national socialistic promoters."

BLUE CROSS DIRECT ENROLLMENT PROGRAM. The Society's "public statement" news release commending Blue Cross for its direct enrollment program May 31 to June 1, 1960 was presented for information.

SCHOLARSHIP AID FOR NURSING EDUCATION. Written in compliance with the Council action of May 11, 1960, a letter to Franklin M. Foote, Commissioner, State Department of Health, was presented for information. This letter refers to the Council's endorsement of a program to provide scholarship aid for nursing education but refrains from recommending the specific size of the appropriation which may be made for this purpose.

REPORT OF DELEGATES TO MEDICAL SOCIETY OF STATE OF NEW YORK. Reports were submitted by John N. Gallivan, East Hartford, President, and Ellwood C. Weise, Sr., Bridgeport, immediate past president, who, as delegates, attended the annual meeting of the Medical Society of the State of New York May 6-10, 1960. The Council commended the delegates for the excellence of their reports and it was VOTED to accept these reports.

REPORT OF DELEGATE TO STATE DENTAL ASSOCIATION. It was VOTED to accept the report of John N. Gallivan, East Hartford, President, relative to his attendance at the annual meeting of the Connecticut State Dental Association.

CIVIL DEFENSE AND CASUALTY PLANNING. Portions of a letter from Mrs. Ralph L. Gilman, Chairman of the Committee on Safety and Civil Defense of the Woman's Auxiliary were read. Mrs. Gilman expressed a desire to conduct an active committee in this field and requested information as to how she might receive guidance and advice from physicians. Since the Society's Committee on Casualty Planning was disbanded a year ago, it was the feeling of the Council that Mrs. Gilman might make contact with the State Advisory Council to the Health Service Division of the Civil Defense Program, which is a function of the State Department of Health and from the Council on National Security of the American Medical Association.

SEVENTH NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS. A report on the proceedings of the Seventh National Conference on Physicians and Schools, held in Illinois, October 13-15, 1959, was submitted to the Council by Martha L. Clifford, Hartford, who represented the Society at that conference. Dr. Clifford's report was received as information, it being understood that she was sharing the information acquired at that conference with the members of the Committee on Public Health and its several sub-committees concerned with school health.

ELECTION OF STUDENT MEMBER. The following student member was elected: Russell Clarance Raphaely, 34 Stuart Place, Trumbull; New York Medical College—Class of 1963; Pre-Med: University of Connecticut; Parent: Clarance J. Raphaely.

CHIROPODY. The Council was informed of the opinion rendered by Attorney General Albert L. Coles relative to the prescribing of systemic pain relieving and anti-infective medications. The last sentence of Mr. Coles' decision crystalizes his opinion in this matter: "It is therefore my opinion that chiropodists are not allowed to prescribe or administer internally any narcotics or antibiotic drugs to patients who are under treatment by them."

REGIONAL MEETING ON INDIGENT CARE. A communication from the Council on Medical Services of the AMA was presented, the essence of which was a request for the Society to recommend persons in "the state welfare agencies" and urge "the agency to send a representative to a meeting which it is planned to hold in New York on July 22, 1960." The purpose of the proposed meeting is to obtain a consensus of local considerations in the matter of drug expenditures in welfare medical care programs by both the medical profession and the welfare agencies involved. While the Council members were in general agreement that they would welcome the opportunity to send a representative of the Society to such a meeting, it was felt that the selection of a representative of the Connecticut State Welfare Department was not in the Council's domain.

MEETINGS OF THE HOUSE OF DELEGATES. Phillip M. Cornwell, Councilor from the Hartford County Medical Association, introduced a resolution adopted by the Board of Directors of that association. The intent of the resolution was that both the annual and semi-annual meetings of the House of Delegates "be properly rotated among the major county areas on an equitable basis but that the scientific sessions continue to be held in Hamden." Although it was pointed out that the annual meeting of the House of Delegates was traditionally held in conjunction with the annual meeting of the Society, it was VOTED to adopt this resolution.

Quoting from the bylaws relative to the date and place of these meetings, Article VIII, Section 3, Pars. 1 and 2: "The Annual Meeting of the House of Delegates shall be called by the Council and shall be held during the week of the Annual Session of the Society . . ." and "A Semi-Annual Meeting shall be held when required at a place and date to be set by the Council."

MINUTES OF MEETINGS OF COUNCIL. Acting upon a suggestion by the General Manager, it was VOTED to send a copy of the Council minutes to the secretaries of county medical associations for their reference at such time as the Councilor or Alternate Councilor from their associations may report.

OVERHEAD (OFFICE) EXPENSE INSURANCE POLICY. Willard E. Buckley, Councilor from the Middlesex County Medical Association and a member of the Society's Committee on Medical Economics and Insurance, presented a verbal report with recommendations of the Insurance Committee relative to making available to members of the Society an overhead (office) expense insurance policy underwritten by the Continental Casualty Company, Mr. Irwin Schiff, New Haven, agent. Dr. Buckley reported that the contract had been thoroughly studied by the committee and had been deemed sound. In order to make this protection available to members of the Society and to effect savings which may be realized through group purchase, it was VOTED to allow Mr. Schiff to approach members of the Society both in person and through the distribution of brochures, to advertise this policy in the Journal and to rent him addressograph plates of the Society for the distribution of pertinent material.

DATE OF NEXT MEETING. It was VOTED that the Chairman and General Manager set the date for the next meeting of the Council. There was considerable feeling expressed that due to the characteristic length of the agenda, the time for Council meetings should be somewhat earlier than has been customary in the past.

Meetings Held in July

6 Advisory Committee on Accident Prevention Study
12 CSMS-CMS Liaison Committee
14 Public Health Committee

The Society's Placement Service is in receipt of the following:

PLACEMENT WANTED

Robert M. Wallbrunn, M.D., Age 34—M.D. University State of New York 1953—Specialty General Surgery—Would like general surgery or associate in surgery.

ANY MEMBER OF THE SOCIETY KNOWING OF OPPORTUNITY FOR PLACEMENT OF THIS PHYSICIAN IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

PLACEMENT OPPORTUNITY

The Medical Staff of the Claremont General Hospital has opening for pediatrician to enter private practice in Claremont, N. H. Also seeking a full time Radiologist for the Claremont General Hospital, September 1, 1960.

Wanted General Practitioner in Littleton, Mass.

ANY PHYSICIAN INTERESTED IN THE ABOVE OPPORTUNITIES IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN ST., NEW HAVEN.

Mark Your Calendar

Thirty-Fifth Connecticut Clinical Congress
of the
Connecticut State Medical Society
and the
Yale University School of Medicine

September 28, 1960

Hotel Statler, Hartford

Plan Now To Save The Date

THIRTY-FIFTH CONNECTICUT CLINICAL CONGRESS
of the
CONNECTICUT STATE MEDICAL SOCIETY
and the
YALE UNIVERSITY SCHOOL OF MEDICINE

September 28, 1960

Hotel Statler, Hartford

The 1960 Clinical Congress will be concentrated in one day and all of the meetings will be held at the Hotel Statler, Hartford.

Two sessions will be held simultaneously in two different places, giving a broad selection of topics. Registration for members of the Society will be $5.00 and provides for admission to all sessions of the Congress.

Hospital residents and interns will be admitted without charge, if a statement of their position, signed by an official of the hospital is presented at the registration desk.

PRELIMINARY PROGRAM

9:00 Registration on Mezzanine

BALLROOM

9:30 How Bad Is Sodium?
George R. Meneely, Nashville, Tennessee

10:30 Malignancy and the Third Circulation
Oscar V. Batson, Philadelphia, Pennsylvania

BOSTON ROOM

9:30 Neonatal Respiratory Distress
Stuart S. Stevenson, Jersey City, New Jersey

10:30 Genetics and Metabolic Disease
Barton Childs, Baltimore, Maryland

11:30 Intermission

BALLROOM

11:45 Clinicopathological Conference
Benjamin Castleman, Boston, Massachusetts

1:00 Luncheon

BALLROOM

2:30 The Dilemma of the Irregular Thyroid

A Panel discussion of the management of thyroid nodules based on illustrative cases presented by the pathologist

Austin L. Vickery, Jr., Boston, Massachusetts
George Crile, Jr., Cleveland, Ohio
Richard B. Cattell, Boston, Massachusetts

BOSTON ROOM

2:30 Anesthesia and Analgesia in Obstetrics—1960
Robert A. Hingson, Cleveland, Ohio

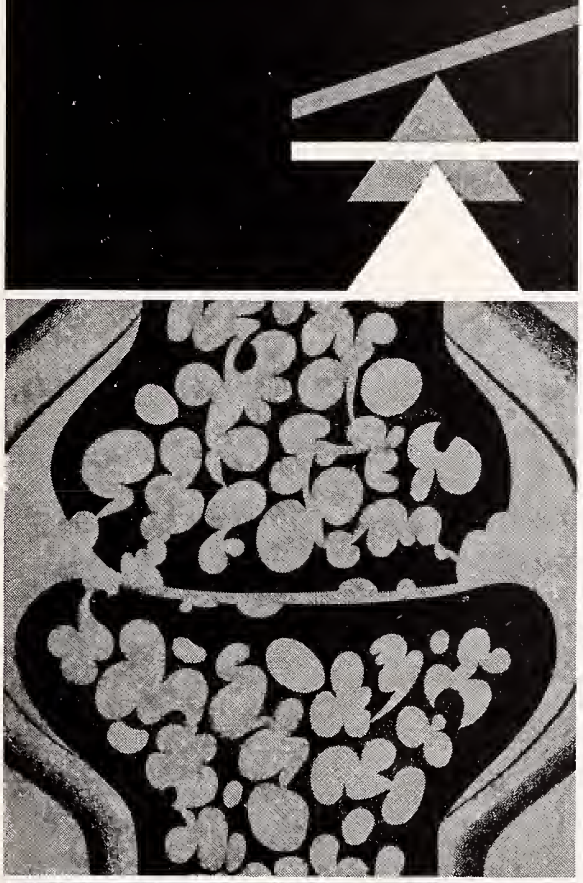
3:30 Newer Concepts in the Management of Toxemia
Alvin J. B. Tillman, New York City

Make a note of this date on your calendar

in rheumatic disorders

whenever aspirin proves inadequate

Sterazolidin®
brand of prednisone-phenylbutazone



Even in the more transient rheumatic disorders, an anti-inflammatory effect more potent than that provided by aspirin is often desirable to hasten recovery and get the patient back to work.
By combining the anti-inflammatory action of prednisone and phenylbutazone, Sterazolidin brings about exceptionally rapid resolution of inflammation with relief of symptoms and restoration of function.
Since Sterazolidin is effective in low dosage, the possibility of significant hypercortisonism, even in long-term therapy, is substantially reduced.

Availability: Each Sterazolidin® capsule contains prednisone 1.25 mg.; Butazolidin®, brand of phenylbutazone, 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; and homatropine methylbromide 1.25 mg. Bottles of 100 capsules.

Geigy, Ardsley, New York

Geigy

165-60

a Custody Account frees you from the Daily Details of Managing your Securities

Like this couple who are delegating some of their more burdensome responsibilities, you too can enjoy the services of a Custody Account. For example, your securities are held in our vaults, secure and insured, while dividends and interest will be collected for you and deposited to your account. We also carry out your written instructions to deliver, receive, sell or buy securities and we will notify you if any expected dividend or interest is not paid, and if any preferred stock or bond is called for payment. The cost of a Custody Account may be as little as $50 a year — covering many services in addition to those already mentioned. You are cordially invited to visit or call any one of our offices for further information or help in managing your securities.

Offices in: Bridgeport • Westport • Fairfield • Norwalk • South Norwalk • West Norwalk • Milford
Stratford • Tunxis Hill • Orange • Shelton • Newtown • Trumbull • Waterbury • Brookfield • Ansonia
Monroe • Bethel • Danbury • New Fairfield

The Connecticut National Bank

Established 1806 • A National Bank Since 1864 • Member: Federal Deposit Insurance Corporation • Federal Reserve System
MAIN OFFICE: 888 MAIN STREET, BRIDGEPORT, CONNECTICUT, TELEPHONE FOrest 6 4741

Memorandum From:

Connecticut Medical Service, Inc.

TO: Physicians in Connecticut

SUBJECT: Federal Employees Health Benefits Program

On July 1, 1960 the Federal Employees Health Benefits Program which was established by the Congress will become effective. The United States Civil Service Commission which, under the law, is designated to administer the program has approved several types of health benefits programs from which the Federal Employee may select the one under which he wishes to be covered. These several programs are offered by the insurance industry, National Blue Cross-Blue Shield, individual Federal Employee organization plans, and so-called "closed panel" health insurance plans. From these each Federal Employee will have an opportunity to select the one under which he wishes to be covered; the Federal Government will pay one-half of the cost of whichever plan he selects within certain maximums which have been established by the U.S. Civil Service Commission.

Connecticut Medical Service, as a Blue Shield Plan, is unable to participate in the National Blue Cross-Blue Shield contract because the contract requires that it be underwritten on an experience-rated basis. Under existing Connecticut law governing medical service corporations, CMS is unable to write an experience-rated contract. The Board of Directors of CMS, however, has as a service to the community, authorized CMS to act in the capacity of Fiscal Administrator for the Federal Employees Health Benefits Program of National Blue Shield for those Federal Employees in Connecticut who select that coverage.

The services which CMS will render are very similar to those which it renders as Fiscal Administrator under the Medicare program. Essentially these are the services of claim processing in accordance with the terms of the contract and CMS has no responsibility for the type of benefits provided, the professional fees which are paid, or the professional policies which govern the coverage; CMS acts basically as administrative agent for the program. As with Medicare, *it should be clearly understood by all physicians in Connecticut that the type of benefits, the fees paid, or the professional policies of the Federal Employees Health Benefits Program have no relationship to the benefits, fees or policies of CMS subscribing member contracts.*

The Federal Employees Health Benefits Program in Connecticut will operate as follows for those who choose the National Blue Shield program:

1. All benefits will be paid as indemnities.
2. CMS will provide enrollment facilities.
3. CMS will provide a special Federal Employees claim form for all physicians. Claims will be sent to a special Post Office Box in New Haven for processing by CMS.
4. CMS will process claims in accordance with the schedule of fees with which you will be provided.
5. When the claim is ready for payment it will be mailed to the headquarters of the National Blue Shield program in Washington, D. C. and the check will be mailed directly to the physician from Washington.
6. CMS will be reimbursed on a no-profit, no-loss basis per claim for the services it provides.

Any questions regarding the National Blue Shield Federal Employees Health Benefits Program in Connecticut should be addressed to P. O. Box 1922 in New Haven or by telephoning New Haven, STate 7-0635.

Special Article

The Medical Profession And Blue Shield

Louis H. Bauer,* m.d.
New York, N. Y.

In thinking over what to say to you today, I reviewed a talk I made two years ago in Chicago, and an article I wrote for the New York Medical Journal two and one half years ago, and I discovered that much of what I said and wrote is equally to the point today.

How did Blue Shield originate? It came about as the result of the depression, when it became apparent that some mechanism must be devised to provide medical care at a low cost to those with low or moderate incomes, and also as a bulwark against the attempts of the socializers to enact compulsory health insurance in this country.

The commercial insurance companies were first appealed to and they said health insurance was impossible, so the doctors devised Blue Shield. It was slow in starting but became increasingly popular. Over 44,000,000 now are covered. This was an action by the medical profession to meet a definite need. Wherever any successful stand has been made against government control of medicine, the entire medical profession of the country has stood together as a unit. Wherever they have quarreled among themselves or started negotiating in separate groups, they have been completely taken over.

This is brought to your attention because in the United States there are countless doctors who refuse to profit by the experience of doctors elsewhere in the world. Our physicians, like the physicians in some other countries, refuse to admit that a threat of socialized medicine exists. Literally thousands of doctors in the United States have their heads in the sand and do not see that they form a large and powerful group that is unwittingly permitting the insidious form of socialism to flatten out with our traditional form of medical practice. Politicians will wait only for the opportune moment, and the opportune moment grows closer as more and more physicians disregard the social changes that are taking place in our country.

Now there are certain facts that must be accepted about these changes. In the past doctors have ignored the changes or have refused to face up to them, either because the physician is traditionally naive politically or because he is simply disinterested. But no longer can those facts be passed over! First, the cost of medical care has so increased that too many people are no longer able to pay their bills without some sort of help, and they will take out insurance to provide that help. Second, the prepayment of medical care is here to stay. Whether we like it or not makes no difference. We have it, and we are going to have it indefinitely. The question to be decided is whether we want that prepayment on a voluntary or a government-run, compulsory basis. I believe the majority of the profession prefers the voluntary method.

If that be the case, the next question is: Do we want the plan to be one in which we have a voice or one in which we have no say whatsoever? Again, I am certain that a majority will reply that they wish to maintain control of the health plans. If this be true—and this point must be stressed—the profession had better wake up and do something about it. A great number of individual doctors are knowingly or unknowingly doing their best to turn the whole business of voluntary health care over to nonmedical bodies. Also bear this in mind: So urgent is the desire of the public to have prepayment medical protection that they will take this protection from whichever plan seems most opportune. At present there are unions who have talked their members into buying union-run prepayment care in preference to doctor-sponsored care. What the unions can do, the Government can do. All they have to do is convince the taxpayer that the voluntary system is not the best system, and the government can do it. They can do it because many doctors no longer respect the provisions of Blue Shield. Because some doctors do not live up to the philosophy of the voluntary health movement, the public is growing dissatisfied. They are not getting the care they expect.

For many years the medical profession was able to show that the best form of prepayment was Blue Shield with its Service Benefits. The countrywide success of Blue Shield was proof of this. The key to success was the Blue Shield benefits in the form of

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Presented at the 168th Annual Meeting of the Connecticut State Medical Society, Hamden High School, Hamden, Connecticut, on April 27, 1960.

*Secretary-General, World Medical Association; Past-President American Medical Association; Former Chairman, Board of Directors, United Medical Service, Inc., New York.

doctor's services: *Service Benefits.* It was and is the only real benefit the majority of consumers want. One need only listen to the spokesmen for the various organized subscribers to realize this. They want prepayment in full, that is, Blue Shield service benefits, and they will exert whatever pressure is necessary to get it. As long as doctors participated in Blue Shield, kept control of it, and continued to give benefits in the form of service, there was no threat to voluntary, doctor-run health insurance.

However, it has been reported that some physicians are playing havoc with Blue Shield by raising their fees as soon as they discover their patients have coverage with the local Blue Shield Plan. For example, the doctor's usual charge for a particular operation may be $100. Blue Shield may pay $100 for that procedure. But suddenly the fee becomes inadequate in the doctor's eye. He informs the patient that the fee is $200! Thus, the patient has to pay $100 out of his pocket. The doctor, in other words has changed Blue Shield into an indemnity plan! The doctor argues that the patient has insurance and is therefore better able to pay his bill. This is a sad commentary on his intelligence, not to say his ethics. He apparently has not considered that the reason behind the patient's having insurance in the first place is his inability to afford large, unexpected cash outlays. The patient in the case cited above would be better off with no insurance at all. Not only did it fail to serve him, but he paid a premium on which he received no real return. Such a doctor is not only a disgrace to the profession but he is defeating the very purpose of voluntary health insurance, and is playing into the hands of the socializers.

How long will the consumer stand for such treatment? The politicians watch consumers' attitudes quite closely, and we may be assured that if voluntary prepayment continues along questionable lines, we will soon have it replaced by compulsory insurance.

The Blue Shield philosophy is this: No doctor is compelled to belong to Blue Shield as a Participating Physician. But if he does, he has to accept the schedule of allowances (which he has approved and which provides service benefits only for those members within certain income ceilings, again decided on by the doctor.)

Service benefits distinguish Blue Shield from other plans. But some doctors and medical societies have denounced service benefits. They call it "socialization," and (they add haughtily) no one can tell them what to charge. As to the first criticism, socialization cannot exist without government intervention nor, usually, without taxation. Far from being "socialistic," Blue Shield and its service benefits feature is the best and in fact the only real defense against socialization of medicine. As to the second objection, certainly no outside agency should tell doctors what to charge. However, someone can tell them what to charge and that is the government. If the government takes over, it will set fees and the doctor will have nothing to say about it. The profession is best qualified to decide on fees, and that is what physicians do through Blue Shield. Blue Shield is not an outside agency nor a third party. Blue Shield is the doctors' own organization. Or it should be. If it is not, then it is the doctors' own fault for letting the control slip out of their hands.

Consider the structure of Blue Shield: It was devised primarily to take care of the low-income groups. It did this by combining the higher risk of illness of low-income groups with medium-income groups having a lower illness rate. An average or community illness rate was the result, and both income groups were charged an identical premium, a premium both could easily afford. To keep this rate from rising now, Blue Shield must maintain an average enrollment of healthy and unhealthy persons. It must continue to attract persons from all walks of life and with average and above-average health as well as persons who are poor health risks. This is the philosophy that participating physicians in Blue Shield originated and continue to support. But what happens when Blue Shield allegiance is shared with a private insurance company or a closed panel? Remember that private insurers do not try to insure the unhealthy. They are interested primarily in large groups with excellent health experiences. Therefore, they can offer insurance at a lower premium. As a result they attract from Blue Shield the very good health population Blue Shield needs in order to survive. The above explains why the problem cannot be turned over to the private insurance companies as some doctors advise. To meet the needs of the public, one must provide a community plan. Many private companies also cancel policies for age or frequent utilization, which Blue Shield does not.

Another suggestion is co-insurance, the patient paying the first few dollars and the insurance company the rest. At first glance this sounds attractive, but it fails to take into consideration two factors. First, such a plan does not cover the needs of the low-income group, for they have to pay not only the premium but also those first 10, 15, 25, or more dollars which they cannot afford. Second, there being no service benefit with an income ceiling, the plan tends to encourage a gradual increase in medical fees.

Next, consider a union's clinic or a medical panel. A union will of necessity devote its money toward protecting its active member. This leaves the retired, the aged, the unemployed, and many dependents out of union plans. These people are also the poor health risks. They are thrown onto the community to seek care wherever they can. The only place they can find prepayment protection is in Blue Shield. If, however, Blue Shield is put in a position where it must continually take in poor risks without at the same time balancing that intake with healthier persons, then Blue Shield rates must soar, and eventually they will rise so high that the persons who need protection most will not be able to pay for it. They will look elsewhere for care, and they will get that care from charity, the doctors, or the government. The opportune moment for which the politicians are always looking will have arrived.

Now let us come down to consideration of what part the Boards of Directors or Trustees of Blue Shield Plans should play.

In surveying the various Blue Shield Plans, we find that the Boards of Trustees vary widely in their makeup, their relationship to the medical profession and in their attitudes toward basic Blue Shield philosophy. Boards also vary in their administrative functions and methods.

I believe that all this variety tends to weaken Blue Shield and that certain very basic principles should govern *all* Boards of Trustees. Boards' adherence to these principles may decide the future of our plans.

Government controlled medicine has swept into many of the countries of the world and is threatening many others.

Today, in the United States, since most patients use insurance as a means of paying for their medical care, the profession has an excellent opportunity to make a firm, united stand against our government's further intervention in medical care. All that the doctors need do is to join behind one, single plan that they themselves sponsor and control. (Whether or not the physician approves of insurance is beside the point.) Insurance is here to stay, whether or not we like it. There is absolutely no turning back to the system in vogue that we knew 25 or more years ago.

To begin with, the board itself *must be under the direct control of the medical societies,* either by virtue of a majority representation of physicians on the Board or by whatever other effective means of control the societies devise.

It may well be that the societies feel better represented by certain knowledgeable, competent laymen. If so, all well and good. The point is: the medical societies should have the ultimate power. We cannot expect the societies or their physician members to continue supporting the plans unless this power is given them. The reasons for this are self evident: we are offering our members physician services. We ask physicians to agree to specific fee schedules and, in the Service Benefits plans, we ask the physician to accept our payment as full reimbursement when he treats patients in certain income brackets. The doctor cannot be expected to agree to these provisions unless he has a controlling voice in establishing them.

As to non-medical members of the board, it should be remembered that physicians taken as a whole are poor business men and poor financiers. They need the advise of those who are experienced in these fields. Therefore, there is a need on Blue Shield Boards for business executives, financiers, public relations directors, and actuaries.

How far the additional general public or labor should be represented is a controversial question. This is something each plan must decide for itself, keeping the following in mind: other plans, such as commercial plans, also sell medical care insurance. Labor unions, too, set up health plans—but the medical profession plays no part, nor does it pressure to play a part, on the governing boards of these organizations. However, just as these organizations should consult *medicine,* so should medicine consult the general public and labor. Board membership, on the other hand, is a moot point.

I have discussed the composition of the Board, and I should next like to speak of the specific things a board may do to improve its relations with the medical societies.

Thus far, only Blue Shield has offered the doctors the control they desire and need. In some Blue Shield plans, however, this control has weakened, or has been taken away from the doctor altogether.

It is not uncommon to hear remarks such as the following from doctors:

> "Our Society has nothing to say about our local Blue Shield Plan."
>
> "We are never consulted about policies."
>
> "Dr. A. was originally suggested by us for the Board, but he never tells us anything, and he no longer represents us."

Then, on the other side of the picture, we have remarks from the Plan Directors such as:

> "What right did the medical society have to do that?"
>
> "What do we want doctors for when we are discussing coverage?"

Something is wrong when such remarks are made.

All this points out the fact that some of our plans are no longer Doctors' Plans except in name. Not all of this is Blue Shield's fault, but often it is the fault of the medical society in letting control of the plan slip out of its hands. The fact remains, however, that whatever the reason, *it is the duty of the Board of Trustees to see to it that this control is strengthened or, where necessary, returned to where* *it belongs—in the hands of the profession.* The key to the correct balance of Blue Shield strength lies in the relationship of the Board to the medical societies it represents.

Most important—Blue Shield must never become a third party! It must only continue as an agent of the medical societies, doing for them what they cannot do for themselves—administrative work, devising contracts, and so on. It is up to the medical members of the board to see to it that their medical societies are constantly informed of these activities; and these same medical members must bring the voice of the societies to board meetings.

The medical societies should have the right to nominate the medical members of the Blue Shield Board. Ideally, in small plans, they can perhaps elect them. But no physician trustee should be elected unless he has been at least nominated or approved by the medical society of which he is a member.

Plan trustees must see to it that no major change in policy is approved by the board unless the changes first meet with the approval of the medical societies. This applies to such plan policies as the extent of coverage offered, service benefit levels, fee schedules and so forth.

Of course, some recommendations of the medical societies may not be feasible, because of financial or actuarial considerations. It is my opinion, however, that no item in the schedule of allowances should be set merely on the basis of funds available. If a reasonable fee, one acceptable to the physicians, is not possible, then either that allowance should be *made* possible, financially, or the item should be paid for on an indemnity basis. No physician should be asked to accept as full payment an allowance which he and his colleagues consider inadequate for the service rendered.

Trustees cannot be aware of the thinking of the members of their societies unless they attend their meetings, report what the plan is doing, and ask for suggestions. The medical society should feel that the trustee elected to represent it, is conversant with the thinking of that society—that he is, in fact, their representative.

Trustees, too, should encourage their societies to appoint committees to study and consider all matters pertaining to Blue Shield.

Besides having a responsibility to the medical societies, the board also has a major responsibility toward its subscribers. These responsibilities manifest themselves in legal matters, in matters dealing with finances, and with information to subscribers. Briefly, I would like to touch on each one.

The legal obligation is, of course, most important. The corporation is licensed under law. Trustees must therefore see to it that all acts of the corporation are in full compliance with the law. The types of coverage, the wording of contracts, control of payments, the nature of advertising, of investments, expenditures of funds, etc., all may have legal aspects and must, therefore, be carefully considered.

The Board of Trustees should employ competent legal counsel and should be guided by his legal advice as a matter of protection to the subscribers, the corporation and the trustees. The legal counsel should attend all meetings of the trustees and executive committee. He should have every matter having any possible legal implication referred to him for service. In my opinion the legal counsel should not be a member of the Board of Trustees.

With regard to finances—there will doubtless be members of the board who are financial experts. However, the board should appoint a finance committee to make recommendations as to investments. Ideally, this committee should recommend hiring an investment company to handle the details of investing. But the policies governing these investments should properly be decided by the board on the recommendations of the Finance Committee.

As for educating the public, it may seem to some that this is an obligation not within the compass of a board's duties. I do not agree. For the public is, truly, the plan's most intimate concern. The public buys the contracts and their needs and desires must be determined. The public must be kept informed of the activities of the plan; of the contents of their contracts; and, while this may seem obvious, the public also must be educated to distinguish between Blue Cross and Blue Shield. I am sorry to have to admit that even the medical profession needs education on that.

All this brings into play the matter of advertising and literature used for distribution to both doctors and subscribers. Trustees should be familiar with all publications, so as to be able to formulate the general principles governing the makeup of their contents. This would include the contents of any newsletters, bulletins, radio and television programs, as well as talks before medical societies or other groups. Trustees naturally are not expected to prepare this material nor to send it out, but arranging for proper distribution and dissemination is the board's duty. Board members may also arrange speaking engagements for themselves or for their plan executives.

Furthermore, the trustees should attend as many national meetings as possible so as to be abreast of the thinking in other parts of the country. UMS has found it very beneficial to invite not only its medical trustees but officials of its sponsoring medical societies to attend the Annual Professional Relations Conference. This conference has given them an insight into the philosophy and problems of Blue Shield that they could not otherwise have obtained.

Inasmuch as your plan here is completely divorced from Blue Cross, I shall not discuss relationships between Blue Cross and Blue Shield.

Matters which must be decided by the Board of Trustees of Blue Shield Plans cannot be decided intelligently unless each Trustee is thoroughly familiar with all aspects of his plan's activities. It has been found, for instance, that some boards meet only once or twice a year, and that the operation of the plan is left entirely to the Plan Director or to the Board's Executive Committee. This is unfortunate. Unless the Board meets frequently, how can the trustees keep abreast of what is going on, or how can they expect to decide the proper course of action of the plan in matters that come up from day to day? Executive Committees are excellent organizations but they should meet to handle emergencies, to sift material and make preliminary studies for presentation to the Board itself. In my opinion, the executive committee should not habitually be given the full authority of the Board.

By the same token, the Plan Director should be expected to carry out the board's policies—but the director himself should not be the one to determine policies. Plan policy should be determined by the board and must reflect the expressed desires of the medical societies. The Plan Director must carry out these desires.

Such matters as co-insurance, experience rating, and service benefits are proper matters for Trustees to discuss. Their decisions, however, must reflect the many responsibilities they have to the public and the medical profession. Trustees must decide whether Blue Shield is to be a community plan or a plan for a favored few. But we must keep uppermost in our thoughts, that if Blue Shield does not protect the *entire* community—including the poor risks—the government will step in. When it does, it will not just take the poor risks, but will sweep up everyone without exception. All one has to do is to look abroad to see what will happen if voluntary health insurance fails in this country. I will go even further and say that if Blue Shield should fail—then we shall most assuredly see government medicine moving in to take over.

In conclusion, I think I can safely say that being a Trustee does not involve just a name or a title, but entails a mature and substantial responsibility for policies and education. Blue Shield must not fail, but it will unless the Plans work in close cooperation with their medical societies, and convince them that the plan is not a third party but only their agent, carrying out certain technical administrative aspects of the program, the doctors, themselves, have set up.

Now, may I make an appeal to the profession itself? Medicine can no longer be practiced as it was 25 years ago. It involves not only art and science but socio-economic as well. Physicians as individuals and medical societies as a whole must take an interest in the whole problem of rendering adequate medical care. The medical profession has had a 2500-year tradition of ministering to the sick. It must keep up that tradition and must, itself, take the leadership in programs to ensure proper medical care. Unless it does, the leadership will be taken away by others.

During the past 13 years I have made two trips around the world and 25 round-trips to Europe. I have seen what has happened when the medical profession weakened and permitted itself to be thrown off the tracks by a government machine. I have seen the debasing of the standards of medical care. I shudder to think what will happen—in fact, what is happening right now—in this country as a result of the apathy of the medical profession.

Blue Shield could insure against all kinds of medical expense, but doctors must be realistic enough to know that the premium may be so high as to price it out of the market. To obtain what is desired may require some sacrifice on the doctor's part. The alternative to sacrifice now may be a system in the future that will resemble England's, with its doctor income governed by politicians.

If the doctors desire a fee-for-service, free choice of doctor plan and want it to compete successfully with other plans, then they had better stand directly behind their own plan, control it, and see that it meets the need of the community and not just a favored few. Competition usually affords stimulation, often progress, but one does not compete against oneself. In the last analysis, we are all competing against government-run medicine, and we need united strength because the enemy is formidable.

We cannot win the battle by fighting each other or by frittering away our strength in independent groups working at cross purposes.

Medical care in this country is on a higher level than anywhere else. Let us unite to keep government and politics out of medicine.

Pathology Laboratory Notes

Roy N. Barnett, m.d., *Norwalk*

Pointers in Parasitology

Connecticut enjoys a cold climate, well-heated privies and such a high standard of sanitation that parasitic infestations are uncommon among the natives. Nevertheless some enteric parasites are observed among those fortunate enough to travel to tropical Paradises or unfortunate enough to have been reared in tropical slums. A few organisms are even passed around locally.

Proper collection of suitable specimens is necessary to secure a satisfactory "yield" of parasites and ova. The following figures, from the Norwalk Hospital Laboratory for the calendar year 1959 illustrate the usual results when more or less random fecal specimens are submitted in routine fashion. All were examined by direct smear and by a formalin ether concentration technique, almost all by an experienced bacteriologist who had graduated from the Parasitology course of the Infections Disease Center at Chamblee, Georgia.

Total Specimens		385
Ascaris ova	1	
Hookworm ova	2	
Taenia ova	1	
Endomoeba histolytica cysts	6	(1.5%)
Giardia lamblia cysts	10	
Trichomonas hominis	3	
	—	
Total Pathogens	23	(6%)

In addition there were submitted 24 pinworm smears, of which 5 were positive.

Considering that most of these specimens were submitted because there was some clinical suspicion of infestation, the positive percentage seems very low. Much of this may be attributed to poor specimens.

Specimens Should Be Fresh

The difficulty in collecting good stool specimens and getting them to the laboratory promptly is no secret to anyone familiar with hospitals. One of the better solutions involves the administration of a moderate dose of Epsom salts. The salutory effects include the following:

1. Both patient and nurse are reminded that something is going on.
2. More frequent specimens are available, so that the chances of one getting to the proper place are increased.
3. Better specimens with more viable organisms are produced.

If any delay is necessary either in the ward or in the laboratory, the specimen should be *refrigerated.* Even histolytica trophozoites are better preserved in this fashion, and may subsequently be activated by warming.

Special Organisms

Pinworms are rarely present in ordinary fecal specimens. The largest number are found by taking advantage of the female worms' habit of ovipositing around the patient's anus during the night. The patient should be examined immediately on awakening, before he scratches away the ova. The buttocks are spread apart and the sticky side of Scotch Tape pressed on both sides of the anus using a tongue depressor holder. There are other techniques but the above time and place of securing the specimen should be followed.

Schistosomes

This very serious parasitic infestation is widespread among immigrants from Puerto Rico. The distinctive ova may be scanty in ordinary specimens. Special acid-ether flotation is helpful but will be used *only* if special request for Schistosome study is made. Rectal mucosal biopsy is a more sensitive technique. Recently it has been shown that equally good results are obtained by firmly pressing a swab over the rectal crypts to squeeze out mucous, then running the swab over a glass side and examining promptly.

Trichinosis

There have been recent significant outbreaks of this disease locally. Of the diagnostic techniques available stool examination is rarely successful, and the skin test often misleading. The skin test remains positive long after earlier attacks, and may be negative early in a first attack. Muscle biopsy, using the deltoid muscle is the best technique. It should *not* be done till at least three weeks after the first symptom. The specimen should be divided in half; one part for fixation and paraffin section, and one for "press" preparation in a fresh state.

Endomoeba histolytica

The incidence of 1.5 per cent is about "par" for this area. In any patient suspected of this infestation, at least three fresh specimens should be examined.

This page is sponsored by the Connecticut Society of Pathologists to promote the best utilization of laboratory facilities and blood transfusions.

Announcing

A NEW AND VALUABLE

GROUP PROFESSIONAL OVERHEAD-EXPENSE INSURANCE PLAN

Exclusively for Members of

THE CONNECTICUT STATE MEDICAL SOCIETY

AS RECOMMENDED BY THE COMMITTEE ON
MEDICAL ECONOMICS AND INSURANCE

CHARTER ENROLLMENT DRIVE CLOSES
OCTOBER 31, 1960

PLAN WILL BE ADMINISTERED BY

GROUP INSURERS, INC.
1184 CHAPEL STREET MAIN 4-2121 NEW HAVEN, CONN.

PREMIUMS ARE TAX-DEDUCTIBLE

WHAT PROFESSIONAL OVERHEAD-EXPENSE INSURANCE IS

It is insurance that pays you directly for your monthly office expenses when you are disabled. Covered are such office expenses as: Rent . . . Salaries of your personnel . . . janitorial services, and other fixed expenses normal and customary to your business operation, except your salary and the cost of implements of your profession.

WHY THE PREMIUMS ARE TAX DEDUCTIBLE

The policy was designed to meet the requirements of Revenue Ruling (55-264, I.R.B. 1955-19, p. 8) which allows certain business and professional men and women to use premiums for the policy as a direct business expense for tax deduction purposes.

WHY THE GROUP PLAN WAS ENDORSED BY THE CONNECTICUT STATE MEDICAL SOCIETY

Prior to the adoption of this plan many members had this type of coverage on an individual basis, while other members were attempting to cover these expenses by using regular disability income policies. NOW by the use of the Society's *mass purchasing power*, the members may enjoy higher and more dependable coverage and at *far lower* rates than are otherwise possible.

WHAT IS THE MAXIMUM COVERAGE OBTAINABLE?

You may apply for coverage *equalling* 100% of your monthly operating expenses . . . to a maximum of $1,000.00 per month.

HOW THIS PLAN RELATES TO YOUR PRESENT DISABILITY INSURANCE PROGRAM

This protection is designed to complement your regular disability program and NOT TO REPLACE IT. Your *present* program provides protection for your *personal* expense needs. This program enables you to cover your *business* expense needs.

HOW THIS GROUP PLAN DIFFERS FROM INDIVIDUAL POLICIES OF THE SAME TYPE

Benefits under *individual* policies start from the 31st day of disability and are paid for only as long as 12 months. Coverage is also limited to 75% of the insured's expenses. Benefits under this *Group Plan* starts with the 16th day of disability and are paid for as long as 18 months. Application can be made for coverge equalling 100% of expenses. Also *premiums* for this *Society's Group Plan* are substantially *lower* than those for individual policies. PLEASE REFER TO OFFICIAL BROCHURE FOR COMPLETE DESCRIPTION OF BENEFITS AND RATES. YOU WILL RECEIVE BROCHURE SHORTLY.

JUST THINK

. . . with this inexpensive Plan you have ideal insurance coverage

Your present disability policy assures you funds to pay for these PERSONAL EXPENSES

- rent
- mortgage payments
- food
- clothing
- taxes
- schooling
- household utilities
- heat

NOW... Through Your Society's GROUP OVERHEAD-EXPENSE PLAN

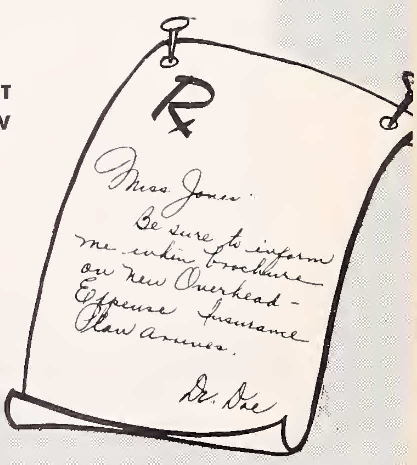
You also have protection to meet these fixed office expenses in the event of disability — and all at tax-deductible premiums.

- Office rent
- Employees Salaries
- Supplies
- Telephone
- Janitorial service
- Depreciation
- Heat and other utilities
- Answering service

BE SURE TO REVIEW THE COMPLETE DETAILS OF THIS EXCELLENT COVERAGE . . . YOU WILL BE SURPRISED AT THE EXCEPTIONALLY LOW PREMIUMS . . . MAKE A NOTE . . . TODAY.

BROCHURES AND APPLICATIONS ARE ON THE WAY

The Charter Enrollment Period will extend to October 31. It will be extremely helpful if applications were returned early. If 50% of the eligible members apply during the Charter Enrollment Drive ALL members through age 69 will be granted coverage REGARDLESS OF PAST OR PRESENT HEALTH HISTORY.


℞
Miss Jones:
Be sure to inform me when brochure on new Overhead-Expense Insurance Plan arrives.
Dr. Doe

Around The State

Blue Cross Mental Coverage

It has been brought to the attention of the editor of *Connecticut Medicine* that Blue Cross Hospital Service in a large number of the plans provide for 21 days of care for persons suffering from nervous and mental disorders. This coverage is provided for in Connecticut Blue Cross Hospital Service.

The Yale Journal and Other Journals at Yale

According to the May 1960 School of Medicine Alumni Bulletin six major medical journals now have their editorial offices at Yale. These include the *Journal of Clinical Investigation, Journal of Comparative Neurology, Journal of the History of Medicine and Allied Sciences, Journal of Neurophysiology, Journal of Neurosurgery,* and the *Yale Journal of Biology and Medicine.* Members of the medical school faculty serve as editors and members of the Editorial Board. Several of the publications also offer opportunities in medical journalism for student editors from the school.

Fairfield County

Charles Dichter was recently presented with a pin recognizing fifty years of practice in the state of Connecticut. This presentaton was made by the Grand Master of Mason's at a testmonial dinner in his honor.

New Haven County

Joseph Weiner, 256 Edwards Street, New Haven, has been appointed a member of the Pediatric Section Committee of the American College of Allergists for 1960-1961.

IMPORTANT !
THE OPINION SURVEY QUESTIONNAIRE

Look for your copy in the mail September 6, 1960! Have your nurse or secretary be on the lookout, too!

Upon receipt, don't delay! Study, complete and return **your** questionnaire in the enclosed addressed stamped envelope.

Don't Be Late ! Participate — Now !

Doctor's Office

Asher L. Baker, M.D., announces the opening of an office for the practice of psychiatry at 120 Washington Street, Middletown.

Hans O. Gerz, M.D., announces the opening of an office for the practice of psychiatry at 206 South Main Street, Middletown.

Fred Gibson, M.D., announces the removal of his office from 37 Trumbull Street to 100 York Street, New Haven.

Edward M. Keelan, M.D., announces the opening of an office for the practice of psychiatry at 431 East State Street, Westport.

Robert F. Newton, M.D., and Anthony Piccirillo announces their association in the practice of pediatrics at 295 Washington Avenue, Hamden and 153 South Main Street, Meriden.

Charles W. Parton, M.D., announces the removal of his office from 34 Connecticut Boulevard, East Hartford to 2900 Main Street, Glastonbury.

Walter S. Ridgway, M.D., announces the opening of his office for the practice of obstetrics and gynecology at 71 Strawberry Hill Avenue, Stamford.

Novello E. Ruggiero, M.D., announces the opening of his office for the practice of general surgery at 58 Central Avenue, Waterbury.

Vincent F. Sica, M.D., announces the removal of his office from 1651 Main Street to 501 Stratfield Road, Fairfield.

Jaime Simkovitz, M.D., announces the opening of a second office at 1510 Stratfield Road, Fairfield.

Edward J. Sulick, M.D., announces the opening of an office for the practice of obstetrics and gynecology in association with Dr. Donald W. Morrison and Dr. Robert C. Walden, Jr. at 17 Haynes Street, Manchester.

Special Notices

COURSE IN LARYNGOLOGY AND BRONCHOESOPHAGOLOGY

October 17 through 29, 1960

The Department of Otolaryngology, University of Illinois College of Medicine, will conduct a postgraduate course in Laryngology and Bronchoesophagology from October 17 through October 29, 1960, under the direction of Paul H. Holinger, M.D.

Registration will be limited to fifteen physicians who will receive instruction by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants will please write directly to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

Long ago men realized that, for a tree to withstand the storm, its roots must reach deep as its branches spread high.

STRENGTH...

The strength of Blue Shield is the strength of the medical profession. They sustain each other as do root and branch. As one doctor put it: "I believe that free medicine can survive only with Blue Shield. They are not identical entities, but they are so mutually interdependent that neither one will go much farther without the active support of the other." **BLUE SHIELD**

SPONSORED BY THE CONNECTICUT STATE MEDICAL SOCIETY
IT'S PART OF CONNECTICUT
CMS

Connecticut Medical Service, Inc.
The Blue Shield Plan for Connecticut

Letters To The Editor

To the Editor:

In the June 18th issue of *Saturday Review,* T. H. White epitomizes the difference between the two major political parties somewhat as follows: The Democrats have a faith that government is there to be used as an instrument of action, the power is to be enjoyed, and leadership is an invitation to experiment and adventure.

Republicans, on the other hand, as a party, distrust government as a thing in itself. Buried deep in their philosophy is the concept of the individual's responsibility for community action apart from government.

Politics indeed makes strange bedfellows. Is Senator Byrd the Democrat to the left or right of Rockefeller the Republican? Even if these definitions are oversimplifications, they serve as well as any to show why the social planners, are attracted to the party that wishes to change things, and those who are proud of our accomplishments group themselves with those who resist fundamental social changes. The auto needs both an engine and brakes. To be sure only one pair of hands at a time should be on the steering wheel. It is a difficult choice for most people to select the party which most clearly promises a program with which they agree.

What does all this have to do with the physician? The case is quite simple for those who believe that the decisions on the future methods of administering medical care are of transcendent importance. At this time it would appear that all the Democratic hopefuls are committed to some Forand type legislation. The Republicans, with minor exceptions believe in the personal responsibility formula. A physician may be torn between personal or other loyalties, or he may be one who votes against this or that, but if he considers his interests as a physician, and if he genuinely distrusts the Social Security formula, he must indeed have a split personality if he votes the Democratic ticket. (The platforms are not yet adopted and this is based on present indications.)

One of the arts of the master politician is to gain support of groups which ordinarily vote according to their real interests which would be adverse. F.D.R. persuaded the farmer to vote the same ticket as labor, though their economic interests appear to be as different as those of buyer and seller. So also the negro vote has largely deserted the party of Lincoln who set them free, and supports the party which continues to obstruct their cherished programs of civil rights. Any vote for the Democratic party, cast anywhere, helps to perpetuate that obstruction.

Doctors are not obstructing programs for the improvement of the care of the aged for selfish reasons. They distrust social legislation which is notoriously productive of strange and unforeseen consequences. Who would have foreseen the consequences of the Prohibition Amendment and the Volstead Act? The doctors plea is to go slowly, and at least await the White House Conference on Aging. Conditions are not so bad as to call for hasty answers to one of the most complicated of problems. It is clear that there would be no such haste were it not for the approaching election.

James R. Miller, m.d.
West Hartford

To the Editor:

Despite many advances in recent years in the therapy of cancer, metastatic breast disease remains one of the pressing problems facing physicians. Radiation with its direct action on metastatic cells is extremely valuable. Alteration in the hormonal milieu of the patient has also proved valuable in palliation. The mechanism of action of hormones is unclear but experimental studies indicate a possible relationship to changes in cellular enzyme systems.

Androgens and estrogens have been utilized extensively but difference of opinion exists among investigators as to which preparation is the one of choice. A recent report of the Council on Drugs of the American Medical Association* suggests superiority of female hormones over androgens. Unfortunately this study lacks complete validity because of its retrospective design, lack of statistical randomization of patients studied, and dependence on the investigator alone (without review) for evaluation of remission of disease. The basic problem—which preparation to use—unfortunately remains unsolved.

The Cancer Chemotherapy National Service Center of the National Institutes of Health several years ago established a program to evaluate hormonal preparations for use in metastatic breast cancer which would avoid many of the pitfalls noted in the A.M.A. study. This program has been quite successful in evaluating many preparations, some of them valuable, others of little value. More preparations need to be studied to find a better hormone than now is available and to solve the problem of estrogen vs. androgen. Only within the framework of such a study, which has been established and is continually policed by trained statisticians can any valid conclusions be drawn.

Connecticut has been represented in the N.I.H. program since its inception by a group of physicians working at the Yale University School of Medicine. The Cancer Coordinating Committee of the Connecticut State Medical Society has endorsed the program and through the cooperation of physicians in the state many patients have been helped. This program is of the utmost importance and must continue if progress against metastatic breast cancer is to be made. Any post-menopausal woman (natural or castrate) with progressive metastatic breast carcinoma is eligible for the program. Physicians may contact Dr. Ira S. Goldenberg at Yale, LOcust 2-1161, Extension 482, for further details and for referral of patients.

Very truly yours,

Ira S. Goldberg, m.d.
New Haven

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* Androgens and Estrogens in the Treatment of Disseminated Mammary Carcinoma, A Report of the Council on Drugs, J.A.M.A. 172: 1271-1283, 1960.

WOMAN'S AUXILIARY

President
Mrs. Morton Arnold, Windham Center

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Highlights of National Auxiliary Convention

The theme for the year 1960-61 will be "Preserve and Enhance the Heritage of American Medicine."

The priority projects for 1960-61 as presented to the Miami National Convention of the Woman's Auxiliary to the American Medical Association will be:

1. Good citizenship as a means of preserving this heritage. Taking active part in partisan politics to elect the people who will preserve the free enterprise medical system.

2. Health Careers: Recruitment for health careers and give more emphasis than in the past to recruiting high caliber medical students.

3. Legislation: Oppose undesirable medical legislation and give support to AMA approved legislation.

4. Support the American Medical Educational Foundation.

5. Be informed on medical care costs.

The Miami Convention was well attended and well planned with many good speakers and good reports. The "Connecticut Recruitment Story" presented by our Mrs. Edward Allen was well received.

The Auxiliary President, Mrs. Morton Arnold, entertained the New England delegates and other delegates including the National President, Mrs. William Mackersie, and the Eastern Regional Vice-President, Mrs. Hannibal Hamlin, of Rhode Island at a delightful cocktail party at her home.

The delegates who represented the Connecticut Auxiliary were Mrs. Morton Arnold, Mrs. F. Erwin Tracy, Mrs. Ellwood Weise, Mrs. Edward Allen, Mrs. William Richards and Mrs. Vincent Gorham.

A.M.E.F.

AMEF Sympathy cards to honor the memory of a friend will be stressed by the AMEF Committee as planned at the June organization meeting. These contributions by Auxiliary members for America's medical schools will be made in each County in addition to the specific county project. Checks payable to AMEF may be sent to the County or State Chairman who will mail a distinctively designed memorial card to the family of the deceased.

Fairfield: Mrs. Charles Meacham, 46 Ocean Drive N., Stamford.

Hartford: Mrs. Nicholas St. John, 375 Ridge Rd., Wethersfield (Ways & Means); Mrs. Stewart P. Seigle, 28 Northfield St., W. Hartford (Treas.).

Litchfield: Mrs. Winfield E. Wight, 24 Goodwin Court, Thomaston (also State Chairman).

Middlesex: Mrs. Charles Russman, 33 Highland Terrace, Middletown.

New Haven: Mrs. Michael Conroy, 57 William Ave., Bradley Park, Meriden; Mrs. Samuel Blank, Southwest Road, Waterbury.

New London: Mrs. Hugh Lena, Jr., 160 Broad St., New London.

Windham: Mrs. Earl Herbert, Jr., RFD No. 1, Willimantic.

Book Reviews

THE RELUCTANT SURGEON by John Kobler, Doubleday & Co., Inc., Garden City, New York, 359 pp. $4.95.

Reviewed by Denis S. O'Connor

The famous names of medicine as a rule have little real life significance unless through biography set in the times in which they lived we are able to appreciate them as living characters.

This biography of John Hunter which in many respects must lower one's heroic opinion of him presents him as a person of unquestioned dedication to the acquisition of anatomical knowledge human but comparative.

While much of this volume is devoted to William Hunter, the more successful but less admirable of the brothers, it does not detract from the main purpose of the book.

Since in that era a surgeon was really an applied anatomist and since John Hunter was obviously more interested in the acquisition of anatomical knowledge than in the application of it, one wonders if it would not be more proper to accent the positive. Be that as it may, the book is a contribution to the appreciation of one of medicine's great for which we may be grateful. In these days when the objectives of specialties of medicine are being degraded to the level of technical proficiency the stimulation which must come from an understanding of what John Hunter endured to develop his anatomical museum for the benefit of those of us who followed, should spur us on to make our footsteps more permanently etched in the sands of time.

UPPER DIGESTIVE TRACT by Frank H. Netter, M.D., Part I of Volume 3 Digestive System, The Ciba Collection of Medical Illustration, 206 pp. $12.50.

Reviewed by Max Taffel

This volume follows essentially the same general style and achieves the same level of excellence as the previous Ciba Collections of Medical Illustrations. It deals not only with gross and histological anatomy, but includes also descriptions of some of the more important functions, diseases, and diagnostic procedures pertaining to the various components of the upper digestive tract.

The material is divided into seven sections. The first three are devoted to the anatomy of the mouth and pharynx, the esophagus, and the stomach and duodenum. Section four is concerned with functional and diagnostic aspects. In sections five, six, and seven the more common diseases are described. Each section is profusely illustrated by the lucid and expressive full-color paintings, that we have become accustomed to expect from Dr. Netter. The illustrations are accompanied by a succinct descriptive text written by the senior author in collaboration with outstanding authorities in their respective fields.

This book is not, and does not pretend to be, an exhaustive atlas of the anatomy and diseases of the upper digestive tract. Its aim is rather to present, in a pleasing pictorial, and yet authoritative manner, practical materia that is of immediate interest to medical students and prac ticing physicians. It should serve admirably as a supplemen to standard and more comprehensive texts on this subjec

An adequate index and excellent list of bibliographica references are appended.

SIGNIFICANT TRENDS IN MEDICAL RESEARCH Ciba Foundation 10th Anniversary Symposium Edited by G. E. W. Wolstenholme et al, Boston, Little Brown, 1959, pp. 356. $9.50.

Reviewed by Harold Lamport

My first reaction on seeing this book was one of dismay another symposium on generalities—its main functions to provide an excuse for a pleasant spring-time trip to Londo and to help Ciba at its tenth anniversary pat itself on th back. The list of participants is a galaxy of luminaries; seve of them wreathed in the laurel of Nobel. Cynically, I expected dull contributions designed to disturb no one, bread-and-butter notes easy to compose and soon done with.

Humbly, let me confess the contributions on significan trends in medical research are mostly provocative, often scintillating and iconoclastic, and concerned more with tomorro than yesterday. The discussion is often fun. The inseminating result of bringing together very bright and successful scientists from different realms of medical research is evident. There is a spritely interchange of ideas, always good humored, but with no fear of disagreement such as permeates many other public symposia where argument is regarde as contentious strife.

The contributions start with the molecule, "Molecula structure in relation to biology and medicine," by Linu Pauling and continue with progressively larger entities unti finally the clinical diseases are reached. The last article i J. A. Shannon's "Factors influencing the substance and dimension of medical research in the United States."

For me, the most exciting lecture was that of Sir Macfarlane Burnet of the Walter and Eliza Hall Institute o Medical Research, Melbourne Australia, "Population dynamics of body cells." His thesis is that "malignancy is essentially a problem in the population genetics of body cell where 'fitness to survive' has a very different implicatio from what it has in the population genetics of free-living organisms. . .": a somatic mutation into a cancer out-survive by invasiveness and rapid growth the normal somatic tissue If correct, cancer would ultimately arise in all subdividing cells, even without carcinogens and viruses, given time enough.

D. W. Richards, of cardiac catheter fame, writes on "Research in chronic pulmonary disease." He suggests that excess response for an unknown reason causes the hyperpnoea which "is an important factor in the dyspnoea of chronic pulmonary disease, and a good subject for future research."

"The quantitative approach to disease exemplified by essential hypertension" is Sir George Pickering's contribution. It is a bold reappraisal of hypertension of unknown origin and quite controversial. The data brought forward are important, their meaning still uncertain.

The philosophy of research administration is treated in the most candid way by the discussants of Shannon's paper. Project research, backing the individual with talent and promise, passing the administration of research funds to sponsoring institutions are all considered. The lack of a single standardized method and the other characteristics of American efforts in supporting medical research receive praise from the non-American participants in the discussion.

THE HISTORICAL DEVELOPMENT OF PHYSIOLOGICAL THOUGHT. Edited by Chandler McC. Brooks and Paul F. Cranefield, Hafner Publishing Co., New York, 1959—13 contributors, 380 pp.

Reviewed by Louis H. Nahum

The lectures which have been compiled in this book were given as a series of symposia held Nov. 13, 14, 15, 1956, January 8, 9, 10, 1957 and April 9, 10 and 11, 1957 to commemorate the one hundredth year of the founding of the Medical School and to dedicate the Basic Science Building of the Downstate Medical Center of the State University of New York.

Certain subjects like that of Dr. J. C. Eccles on "The development of ideas on the Synapse were included in this book though not presented in a symposium. Similarly "The Discovery of the Function of Chemical Mediators on the Transmission of Excitation and Inhibition of Effector Tissues" by Dr. Brooks and "Humorally Transported Integrators of Body Function and the Development of Endocrinology" by Drs. Brooks and Harold A. Levey were also written especially for this book.

There are five sections. One on Medicine and Basic Scientific Thought by Owsei Temkin. A second on the Basis of Integrative Functions and Human Behavior in which six excellent papers by Stevenson, Eccles, Fulton, Magoun, Homer W. Smith and Zilboorg are included. Section III is concerned with Humoral Transport and Integrative Function containing three articles by Chauncey, Leake, Brooks and Brooks and Levey. Section IV is concerned with Mechanistic Thought, Energetics and Control in Biology. There are two papers one by George Rosen on Conservation of Energy and Metabolism and "Modern Concepts on Biological Adaptation by Ludwig von Bertalanffy. The last section is concerned with Vital Processes and the Disease, Slate with four papers. Physiology and the Recurrent Problem of Vitalism by Iago Galdston. What keeps men alive? By Bruno Kisch; the Contribution of Pharmacology to Basic Physiological Thought by Gilman and finally "Towards a Philosophical Study of the Idea of Disease by L. J. Rather. Each section is preceded by a short introduction in which is foreshadowed the importance of the contributions to follow.

As might be expected with thirteen different contributors there would be as many styles of presentation. Thus we find chronology at one extreme to humanistic history at the other. John Fulton brings to life the men who made history, and tells a delicious anecdote of Pavlov who while listening to Mussolini and seeing him throw his head back and raise his arm in the familiar salute, exclaimed in a loud whisper "Eine bedingte Reflexe." In Gregory Zilboorg's treatise on "Dynamic Process in Psychiatry" we find it alive with the men who raised modern psychiatry to its present eminence. On the other hand Gilman deals with concepts and ideas as they have developed empirically and experimentally. By passing from the stage of what a drug does to the question of why it does it, pharmacology has added greatly to advancing physiologic thought. His choice of examples as curare, adrenalin, acetyl-choline, histamine and penicillin as illustrating "from what to How" is especially felicitous. History has been racing so fast that one may wonder how many of us realize the true extent of its racing progress in the last decades. Gilman has opened for us the pandoras box through pharmacodynamics.

It is surprising that after Homer Smith demolished the seeming antithesis between vitalism and mechanism in biology by showing it to be an epistemologic matter subsequent authors continue to explore this non-existent conflict. Kisch ends up with vitalism. Von Bertalanffy leaves the mind body problem unresolved.

After reading this book a physician will realize how much he is enmeshed in the history of medicine. Every time he takes a history it will bring to his mind the contributions of Plato, Aristotle, Hippocrates, Galen, Maimonides, Vesalius, Harvey, Leeuwenhock, Boyle, Pasteur, Virchow, Sydenham, Freud and many others. One will realize that there are distinguished physicians today who while actively pursuing scientific problems nevertheless find time in following medical history back through the Greco-Roman period of thought, the Middle Ages, the Renaissance and the scientific efflorescence of the last century. To the reader "the exercise of the intellect in this manner will focus his attention on the deductive and inductive methods, the dogmas, the tenuous speculations, the working hypothesis and the experiments themselves."

This reviewer can think of no better way than a book of this type and scope to commemorate the 100th Anniversary of a University. For what is the ultimate aim of a seat of learning and of its scholars? Is it not to strive for new knowledge and above all wisdom? Can wisdom come to anyone without a knowledge of where he stands in the development of ideas? History by building a bridge between the past and the present illuminates both. But it does more, it points to the future. This is the merit of this book as pointed out in the conclusion by Brooks.

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In Memoriam

Anderson, James O.—West Hartford; Georgetown University School of Medicine, Washington, D. C., 1938; interned at the Holy Name Hospital in Teaneck, N. J.; served a residency at the Pilgrim State Hospital in Brentwood, N. Y., and the Spring Grove State Hospital in Catonsville, Md.; member of the American Psychiatric Association; veteran of World War II; formerly associated with the Norwich State Hospital; served as consultant at the Institute of Living in Hartford; died in St. Francis Hospital, Hartford, Feb. 14 aged 60.

Chase, Arthur A.—Plainfield; Harvard Medical School, 1901; practiced general medicine in Plainfield for nearly 60 years, having established his office there in 1901; during the first few years of practice, Dr. Chase also served as the town dentist; he was soon appointed health director for the town and held that position throughout his life; he served as chairman of the community Board of Finance for many years; he was a member of the Plainfield Rotary Club, a founder of the Snake Meadow Club, and of the Moosup Lodge, A.F. and A.M.; in 1951 the people of the community honored him for his devoted service; he was honored as a 50-year member of the State Medical Society in 1957 and recently the Plainfield Rotary Club and the Snake Meadow Club elected him to honorary membership; died June 11, aged 80 years.

Edlin, Charles—Waterbury; Tufts College Medical School, 1925; received his Connecticut license in 1925 and established a practice in Waterbury; died at Mt. Sinai Hospital, Hartford, March 16, aged 59 years.

Flynn, John F.—Bridgeport; College of Physicians and Surgeons, Baltimore, Md., 1911; served as president of the Bridgeport Board of Health, 1931 to 1933, after being a board member for several years; he also served as police surgeon for several years and was a member of the medical staff at Bridgeport Hospital; was found dead in his room May 18 and cause of death was reported as a heart attack; he was 75 years of age.

Fulton, John F.—Hamden; Harvard Medical School, 1927; a member of the faculty of Yale since 1929, he was a recipient of many honors both here and abroad for his accomplishments as a scientist and scholar; in 1951 he relinguished his post as Sterling Professor of Physiology to accept the newly created position of Sterling Professor of History of Medicine; his pioneer work in neurophysiology outlined basic concepts which led to the development of frontal lobotomy procedures; during World War II he directed the Yale Aeromedical Research Unit in the study of physiological problems connected with aviation medicine and in the development of high altitude clothing for pilots; he was named a Rhodes Scholar at Oxford from 1921-23 and a Christopher Welch Scholar for the next two years and received a Ph.D. degree from Oxford in 1925; he was a fellow of Madgalen College from 1928 to 1930, a demonstrator in physiology at Oxford in 1928, and an Associate in Neurological Surgery at Peter Brent Brigham Hospital in Boston in 1928; he joined the Yale faculty in 1929 as Professor of Physiology, also named a Sterling Professor in 1930, and also served as chairman of the Department of Physiology prior to accepting his new professorship for the history of medicine; in 1956 he was honored by more than 100 of his former students and colleagues for his 25 years of service to Yale; he was the author of many leading medical publications and texts; in 1946 he published his biography of Dr. Harvey Cushing and in 1947 in collaboration with Miss Elizabeth H. Thomson, he published the "Life of Benjamin Silliman" in conjunction with the centennial of the Sheffield Scientific School at Yale; he served with the National Research Council and the Committee on Aviation Medicine and in 1940 flew to England to practice liaison with the British Medical Research Council, for which he was later decorated by the British Government; in 1945 he received a citation from the war department for his "patriotic service in a position of trust and responsibility" and in 1949 the president of the French Republic named him an officer of the Legion of Honor; he also occupied a number of distinguished lectureships in the United States and other countries; died May 29 at his residence following a brief illness, he was 60 years of age.

Kardys, John A.—Hartford; George Washington University Medical School, 1930; a member of the medical staff at St. Francis Hospital, where he completed internship in 1930; a native of Hartford, he was a sports enthusiast and engaged in boxing prior to attending college; served as a first lieutenant in the Medical Corps, USA; served as a police surgeon and as a member of the medical staff of the YMCA; died May 28, at age of 57 years.

Knapp, C. Stanley—Greenwich; Columbia University College of Physicians and Surgeons, 1919; a lifetime resident of Greenwich he practiced medicine in that community for 36 years; he served as chief of the medical staff of Greenwich Hospital, police surgeon, medical examiner, and chairman of the Board of Health; town officials and hospital and community leaders paid high tribute to Dr. Knapp upon news of his death and the flags in all town buildings were ordered flown at half mast; he was a graduate of Greenwich Academy in 1910, attended Colgate University where he received both his A.B. and M.S. degrees; following graduation from medical school he served his internship in New York's Roosevelt Hospital, after which he returned to Greenwich; in 1922 he joined the Grenfell Mission which provided medical care for the natives of Battle Harbor in Northern Labrador returning again to Greenwich in 1923; he was appointed police surgeon in 1930 and was active in this position throughout his life; he became a member of the Board of Health in 1939 and subsequently served as secretary and chairman of the Board through 1948; he again received appointment as a member of the Board in 1959; he was past president of the Greenwich Medical Society and the Fairfield County Medical Association; his life long interest centered in the expansion and improvement of medical and hospital facilities in Greenwich; died July 6 at Greenwich Hospital after suffering a coronary occlusion at his home; aged 67 years.

Shea, Daniel E.—Hartford; a veteran of World War I, Dr. Shea retired from medical practice several years ago, he was a member of local, state and national medical associations, the American Legion, Knights of Columbus, and the Benevolent Protective Order of Elks; died at St. Francis Hospital, Hartford, May 31, aged 67 years.

Physician Population Increases by 4,769 in 1959

The physician population of the United States and its possessions increased by some 4,769 in 1959, the Council on Medical Education and Hospitals of the American Medical Association reported.

This was an increase of 660 over the gain reported in the previous year, according to the council's report in the current Journal of the American Medical Association.

The increase of 4,769 results from the licensing of 8,269 new physicians minus approximately 3,500 physicians who died.

Of the 8,269 new physicians, 1,626 were foreign-trained.

The largest number of first licenses issued was 1,121 by New York. Three other states issued more than 500 first licenses—California 676, Illinois 521, and Pennsylvania 530.

The most notable increases, compared with 1958, were in Alabama, Connecticut, Illinois, New Jersey,

Obituary

Albert S. Gray, M.D.
1881 - 1960

Dr. Albert S. Gray, seventy-nine, West Hartford health officer and former Deputy State Health Commissioner, died April 21, 1960.

A native of London, he came to the United States at an early age. He attended Cooper Union Institute and graduated from New York University-Bellevue Medical College in 1915. He served his internship in the St. Francis Hospital, New York City.

After two years of private practice, Dr. Gray entered the United States Public Health Service in which he served until 1928 when he came to Hartford to head the Industrial Hygiene Bureau of the Connecticut State Department of Health.

Though confronted with some misconceptions regarding the approach to—and application of methods in—the practice of industrial medicine, Dr. Gray, through teaching and demonstration soon won the support as well as the confidence of both practicing physicians and industrialists.

Under his direction and guidance work grew rapidly, necessitating an increase of staff to include physicians, nurses, hygienists, chemists and engineers.

Dr. Gray contributed much to education in the field of industrial medicine and hygiene. His articles in the Connecticut Health Bulletin as well as his annual reports to the Connecticut State Department of Health are sources of pertinent information now used by many state and city health departments in the United States.

For several years Dr. Gray was a member of Yale University Faculty.

In recognition of his achievements in the prevention of occupational illness, Dr. Gray received a citation from the Connecticut Safety Society in 1948, and in 1953 the Society awrded him an Honorary Membership.

In 1950 he was named Deputy Commissioner of the State Department of Health and in 1951 was appointed Chief Medical Officer of the Civil Defense office.

During the last three years of his life Dr. Gray was Health Officer for the Town of West Hartford.

Surviving are his wife, Mary Hogan Gray of West Hartford; two sons, Albert G. Gray of West Hartford, John W. Gray of Camillus, New York, and one daughter, Sister Mary Luke, M.D., member of the Society of Medical Missionaries, Inc.

Arthur B. Landry, M.D.

The Sesquicentennial Issue

This issue of Connecticut Medicine honors the Yale University School of Medicine in its sesquicentennial anniversary.

No state medical society in the history of American Medicine was more closely affiliated with a medical school than was the Connecticut State Medical Society with the Medical Institution of Yale College in the first half century of its existence. Ties such as were then present are seen in our own time in such cooperative enterprises as the Clinical Congress and the Postgraduate Program. The recent announcement of the extension of Yale Medical Library privileges to Connecticut physicians is but further evidence of the good will which exists and has existed so long between these important Connecticut institutions.

This issue presents two articles dealing with earlier years in our medical history and others with present and future developments of the medical scene at Yale.

Dr. Herbert Thoms, as guest editor of this special issue, gives us a story of events and personalities leading up to the founding of the Medical School drawn in part from his forthcoming book *The Doctors of Yale College, 1702-1815* to appear at the time of the Sesquicentennial Celebration in October of this year.

Dr. Oliver S. Hayward who has spent some years in gathering material for a forthcoming book on the life of Nathan Smith tells us about contemporary views of that great doctor and here presented for the first time. Doctors Vernon W. Lippard, Albert W. Snoke and Arthur Ebbert are well known for their competence in the fields they write about. Elizabeth Thomson is Research Associate in the History of Medicine.

The editors of Connecticut Medicine *are gratified to present this issue in behalf of the Connecticut State Medical Society as part of its contribution to the celebration of the sesquicentennial anniversary of the Yale University School of Medicine.*

The Medical Institution Of Yale College
and
The Connecticut State Medical Society

Herbert Thoms, M.D.
New Haven

SCIENCE at Yale had its real beginnings in the administration of President Thomas Clap, a theologian also learned in mathematics, optics and astronomy who came into office in 1740. A rigid religionist and strict disciplinarian, the forces of nature were to him the manifestation of a divine order. He is credited with constructing the first orrery or planetarium made in America and it was during his time that Ezra Stiles, then a tutor, assisted in what was said to be the first electrical experiments made in New England, on apparatus sent to the College by Benjamin Franklin.

The idea of Yale becoming a university also arises from President Clap according to Dr. William Douglass of Boston who in his survey of the American colonies (1755) wrote,[1] "A very considerable produce in the Colony of Connecticut is a seminary of learning, or Schola Illustris, called a collegiate College, and when professors of several sciences are endowed, it will be called a University. This plant is vigorous, thriving under the cultivation of the present President, the worthy Reverend Clap." Whatever actual plans Clap may have had were probably lost to us when a large chest containing his manuscripts was taken away and destroyed by the British at the time of the invasion of July, 1779.

A truly major event in the history of Yale as a university is seen in President Ezra Stiles' *Plan of a University*,[2] presented to the Yale Corporation, December 8, 1777. This occurred before Stiles had succeeded to the presidency made vacant by the resignation of Naphtali Daggett. When Stiles received notice of his election on September 25, 1777, he was then occupying a pastorate at Portsmouth, New Hampshire, having been forced to leave Newport, Rhode Island, at the occupation by the British in 1775. He did not announce his acceptance of the Yale offer until March 1778 and was not inducted into office until July 8th of that year. It was therefore during negotiations with the Corporation that the Plan was brought forth. In December 1777, he wrote in his famous diary,[3] "I drafted a Plan of a University, particularly describing the Law and Medical Lectures at the Desire of the Corporation of Yale to be laid by them before the Committee of the General Assembly of Connecticut appointed to consider among other things whether it is expedient to found these two professorships." In reality the Plan was part of an effort by which Stiles hoped to rescue the College from a prevailing unpopularity with the legislature and the public at large.

A modern note in the medical part of the Plan is seen in the author's insistence on practical teaching as opposed to a purely didactic program. Stiles was well aware of the advantages of the apprentice system where the medical student came into actual contact with the details of practice. Some of his specific recommendations find reflection in the Yale system of medical education of today. As he put it, "Let the professor go round and give extemporaneous lectures."

The Plan, however, was born thirty years too soon. When it was presented to the General Assembly on February 14-15, 1778, that body took the opportunity to increase its own powers by proposing a union between the College and the State which would establish a Board of Civilians elected by the Assembly and would join with the Yale Corporation. This civilian board would have the disposal of state grants for whatever professorships they might endow, the Corporation holding their own funds and neither accountable to the other. As a result of this attitude not only was nothing done but it took 14 years to iron out most of the differences arising from the occasion.

It is pleasant to record that before he died Ezra Stiles saw some of his earlier dreams realized. By an act in 1792, the Governor, Lieutenant Governor, and six senior assistants were added to the Yale Corporation and funds were made available not only for additional professorships but for a new building at the College. During his residence in New Haven as president, Ezra Stiles seems to have been well informed on medical affairs in Connecticut. Doubtless one source for this knowledge rested in Dr. Leverett Hubbard, his brother-in-law and college-mate. Hubbard, a medical leader was the first president of the New Haven County Medical Society and served that office seven times until 1791. In 1792 at the first meeting of the Connecticut Medical Society he was chosen president and reelected the next year.

It remained for Stiles' successor Timothy Dwight to make Yale a university. His administration saw the establishment of the departments of Medicine, Theology and Law, in that sequence. Historically, in the opening years of the 19th century Timothy Dwight, President, and Benjamin Silliman, Professor of Chemistry and Natural History, were the power and the glory at Yale. To these two belongs the chief credit for the establishment of the Medical Institution of Yale College. In their deliberations with the legislature and with the State Medical Society they showed not only intellectual leadership but political acumen of an order not usually found in academic circles. And, both were well fitted for these roles.

When Timothy Dwight became President of Yale College he was acknowledged as a foremost preacher and the greatest teacher of his day. Added to these accomplishments was his commanding stature and presence. His mental endowments reflected those of his maternal grandfather, the famed Jonathan Edwards, and his stature that of his six-foot-four father Judge Timothy Dwight of Northhampton, Massachusetts. As a result of his mother's teaching young Timothy was ready for college at the age of eight, but his entrance there was postponed until he was 13. He graduated from Yale College in the Class of 1769, being tied for first place with Nathan Strong.

After graduation Dwight served as tutor under President Daggett and in 1777-78 was a chaplain in the Army of the Revolution. He then taught school at Northampton, ran two farms and became a member of the Massachusetts Legislature. In 1783 he started his notable career as parish minister and principal of a school at Greenfield Hill, Connecticut. Under his guidance Dwight's Academy became a serious rival to Yale College. Dwight was also recognised in his day as a poet of distinction and was a member of the literary coterie known as the Connecticut Wits. With these successes to his credit and in the prime of life at 43, Timothy Dwight was a natural choice for the presidency of Yale College. He was inaugurated in 1795.

From the beginning the new president had in his own mind a clear idea of the place he wanted Yale to occupy in the life of the nation. Timothy Dwight found Yale a respectable college and left it a university.

Benjamin Silliman, in some contrast, was not prepared for college until he was 13, at which age he entered Yale with an older brother in 1792. After graduation he taught school at Wethersfield and later studied law in New Haven, being admitted to the Connecticut bar in 1802. During the latter part of his law studies he became a tutor at the College and it was during this time that President Dwight persuaded him to abandon law as a career and prepare himself to occupy a chair in chemistry and natural history about to be established at Yale College. On September 2, 1802, the new chair was authorized and Benjamin Silliman was named the first occupant. He was then 23 years old and still without any special training as a scientist. That fall he went to Philadelphia to study chemistry and natural history, attending there also lectures in anatomy, surgery and materia medica. In 1804 he journeyed to Europe and at Edinburgh studied chemistry, mineralogy, and medicine. In the spring of 1806 he was back in New Haven ready to take up his professorship and to assume an important part in the early development of the School of Medicine. Academically his training in medicine was better than any physician in Connecticut then in medical practice. In his years at Yale Silliman became the "Nestor of the American Science" and through a long life of service made that institution the leading center for scientific studies in America.

President Dwight of Yale, foremost as a preacher and educator, and Benjamin Silliman, trained as a lawyer and physician and the greatest American scientist of his day, in their deliberations with the General Assembly and with the State Medical Society had full assurance that what they had to say would be respectfully listened to.

In the formation of medical societies in Connecticut graduates of Yale College played important roles. The county medical societies were the first to organize, the first attempt to obtain legislative approval being made by 11 physicians of Norwich in 1763. Their petition was denied. The next came from Litchfield County. There the Medical Corporation of Litchfield maintained an active organization from 1767 to 1771, but no record has been found for the next eight years. On July 5, 1779 this group reassembled at Sharon and took unto itself the high sounding title, "First Medical Society in the Thirteen United States of America Since Their Independence."[4]

On December 10, 1783, a group of New Haven physicians headed by Leverett Hubbard stated in the CONNECTICUT JOURNAL that a meeting of physicians would be held on January 5, 1784 for the purpose of uniting "in petition with other county medical societies to the honorable legislature for an act of incorporation the more effectively to regulate the practice of physic."[5] But, it was impossible at this time to secure any such legislation, for in the minds of some members of the Assembly this was an attempt on the part of doctors to increase their income. It was not until 1787 that a bill was introduced to create a State Medical Society which might appoint examining committees in the several counties who would certify qualifications for practice. This commission also failed. Not to be put back by this, the New Haven County physicians, again under the leadership of Leverett Hubbard, opened correspondence with medical societies in Europe and undertook a medical publication of their own, the celebrated *Cases and Observations,* the first medical transactions to be published in America. An account of this achievement has been well told by Dr. George Blumer in *The Heritage of Connecticut Medicine.*[6]

At this time the question of incorporating a medical society was creating interest throughout the state which extended to the College. On July 15, 1788 the seniors, no doubt at the behest of the President, debated the subject, "Whether it be safe to Grant the Proposed Charter of the Connecticut Medical Society" and later in 1789, "Whether the Institution of Medical Societies be Useful."[7]

In January 1791 the County Medical Society of New Haven made a new approach to the legislature for their own incorporation, the stated purpose being the "collecting and preserving a collection of useful papers relative to the practice of medicine."[8] The records fail to show what, if any, action was taken. However, in May of 1792 at the time of a meeting of a state medical convention in Hartford where the legislature was in session, the Honorable General Assembly of the State of Connecticut did pass an act of incorporation of the Connecticut Medical Society which is believed to be the first private charter granted by the State of Connecticut.

The new act had two important and far-reaching provisions for it gave the society not only authority to appoint examining committees to issue licenses to practice but also the right to confer honorary degrees in medicine. A few years later when the authorities at Yale began to plan realistically the establishment of a medical school, cooperation with the State Medical Society was one of necessity. By 1807, when proposals for negotiation were first made by the Yale Corporation to the Society, that organization had greatly augmented its position regarding medical education by having set up a series of regulatory measures in private teaching and strengthened the qualifications for the granting of licences. Negotiations between the two bodies went on for the next three years and concessions were made by both sides.

From the beginning of the State Medical Society its officers were for the most part graduates of Yale College. The first president, as has been noted, was Leverett Hubbard, Yale 1744. At his death in 1794, Eneas Munson, Yale 1753, had held the office seven years. From 1807 to 1810, during the negotiations, Yale's most influential friends in Society circles were Mason F. Cogswell, Yale 1780, and Eli Ives, Yale 1799. In 1808 Cogswell became vice-president of the Society and later on president. In spite of his youth, being in his twenties, Ives was said to be the leading spirit in the Society during the deliberations. Even then he showed qualities of leadership which were to make him an important member of the first Yale medical faculty and later on president of the American Medical Association. The historian, Henry Bronson, his one-time pupil, said of Ives, "Had he been as eloquent he would have been a greater man than Dr. Rush."[9]

In 1807, Mason Fitch Cogswell of Hartford was the leading surgeon of the State, with wide respect and prominent social connections. His gentlemanly qualities had also made him a leader in civic affairs. The Cogswell home was not only something of a center for medical teaching but one of cultural and literary interests. Cogswell was a member of the celebrated Hartford Wits and a contributor to its productions. He is remembered today as the chief influence in the establishment of the first American institution for the treatment of the deaf and dumb. He is also given credit with Eli Todd for the founding of the Hartford Retreat for the Insane. He was the obvious choice for the post of anatomy and surgery at Yale to which he was appointed in 1812. He was reluctant to leave Hartford, however, and when Nathan Smith came into view for Yale, Cogswell was relieved to present his resignation. At that time he was in the midst of his humanitarian enterprises at Hartford and hoping to bring help to a cherished daughter who was a deaf mute.

The first Medical Society committee designated to negotiate with the Committee of the Yale Corporation (May 20-21, 1807) was composed of John R. Watrous, M. F. Cogswell, John Barker, Joseph Foote and Eli Ives. All were Yale graduates but Watrous who was president of the Society. Watrous remained in office until 1812 and his name and those of Cogswell and Ives continued to appear on the Society's committee until union with the College was completed. In October 17-18, 1810, the Society's Committee was also designated to be a committee of nomination to cooperate with a like committee of the Yale Corporation to nominate professors for the Medical Institution.

The Articles of Union between the Society and Yale College appeared in their final form at this October meeting. There were 13 articles or paragraphs in all and it is a document of historic importance.[10] In brief summary the articles are concerned with the following subjects:

1. The naming of the Medical Institution of Yale College.
2. The educational program to be "A complete circle of medical science consisting of four professorships." These were to be nominated by a joint committee of equal numbers (as noted above) and chosen by the Corporation.
3. The establishment of a "Cabinet of Anatomical Preparations, including all things usually found, in collections of this nature. . . ."
4. "That there be a Collection of Specimens, in the Materia Medica; and that a Botanical Garden be established, as soon as the funds of the College can afford such establishment."
5. This article contains the gist of the Union and states that every young man in the State who wishes to be admitted to an examination for a licence shall be apprenticed to a practitoner in good standing for two years if he is a college graduate, otherwise three years and shall have attained the age of twenty-one and who shall attend one course of lectures at the Medical Institution of Yale College or some other "public medical institution."
6. The price of a ticket for the whole course of lectures shall be fifty dollars.
7. This article establishes the Committee on Examination, of equal numbers from the Society and the Corporation with the addition of the President of the Society having a vote at all times and a casting vote when there is a tie.
8. Stipulates that a candidate for the degree of Doctor of Medicine shall attend two courses of lectures either at Yale or some other institution and on recommendation of the committee on examination the degree shall be conferred by the President of Yale College.
9. Describes the method of awarding honorary degrees to persons recommended by the Medical Convention "as deserving so distinguished a mark of respect."
10. States that there shall be but one examination a year at the close of the course of lectures but the President of the Society may convene the examining committee at other times.
11. Contains the proviso that all medical students who have attended two courses of lectures at the College may attend future courses, gratis.
12. All persons licenced in the future are to become members of the medical society in the counties where they reside, automatically.
13. Duplicates of the foregoing articles shall be interchangeably signed and reported to the Corporation of Yale College and the Medical Society.

By this union both the College and the Medical Society had given up a certain amount of sovereignty, but history shows that they were both made stronger in a force which aimed at better medical education. How well it worked out may be judged to some extent by Dr. Jonathan Knight's public statement 43 years later in 1853 in which he said,[11] "The result of this arrangement has been eminently happy; all unpleasant feeling was at once and forever allayed; the members of the Society became interested in the school; we have at all times had the benefit of their counsel and support, and it gives me pleasure to state that no instance of disagreement has ever arisen, among members of the board or between the School and the Society; on the contrary, each has regarded the other as a fellow laborer in the endeavor to promote and advance the interest of medical science."

With the granting of the charter by the General Assembly in October 1810 the way was apparently clear for going ahead but actually very little occurred. The chief factor responsible for this was that the Medical Society met but once a year. It was not until September 10, 1811 that the Corporation appointed a committee to unite with one from the Society to "carry into execution the Medical Institution of Yale College[12]." Six months later on April 19, 1812 the Corporaton record reads,[13] "Mason F. Cogswell was chosen Professor of Surgery and Anatomy and Jonathan Knight, Assistant Professor of Surgery and Anatomy in this College." At this time Knight was 23 years old and had just finished a course of medical lectures given in Philadelphia. Both later resigned in order to make way for the appointment of Nathan Smith of New Hampshire who was invited in the autumn of that year to be the Professor of the Theory and Practice of Physic, Surgery and Obstetrics.

At that time Smith was the outstanding medical teacher in New England and was running with almost a single hand the highly successful Dartmouth Medical school. He was unable to come to New Haven until September 1813, being detained at Hanover by a severe epidemic of typhoid fever which had spread to members of his own family. When he did arrive the Medical Institution was ready to open its doors in a building at the head of College Street built for a hotel by James Hillhouse, the Treasurer of Yale College. When the first session started the faculty consisted of the following:

Eneas Munson, Professor of Materia Medica and Botany.

Nathan Smith, Professor of the Theory and Practice of Physic, Surgery and Obstetrics.

Benjamin Silliman, Professor of Chemistry and Natural History.

Jonathan Knight, Professor of Anatomy and Physiology.

Eli Ives, Adjunct Professor of Materia Medica and Botany.

At the time no medical school in the country was better organized for teaching and none could outmatch the stature of Silliman and Smith.

Eneas Munson also added considerable prestige to the group although he was then 79 years of age. He was widely known for his knowledge of materia medica and in this field Eli Ives has recorded that probably his superior was not to be found in Europe. This grand old man of Connecticut medicine remained on the faculty until his death in 1826, then at age 92 the oldest person in New Haven. He did no teaching at the Medical Institute, that function being served by Eli Ives, but his wise counsel was available and sought.

When Nathan Smith came to Yale, he was 50 years old. After spending his boyhood on a frontier farm in Vermont he served an apprenticeship in medicine and afterward attended the medical school at Harvard where he received the degree of Bachelor of Medicine in 1790. For the next five years he practised in Cornish, New Hampshire and in 1796 went to Edinburgh to prepare himself for teaching at the then proposed Dartmouth Medical School. In the autumn of 1797 he gave a full set of lectures at Dartmouth. Within three years that school was a flourishing enterprise, and it was not long before his fame as a skillful surgeon had spread over New England. In 1811 he was elected President of the New Hampshire Medical Society and in that year Harvard awarded him the honorary degree of Doctor of Medicine. When the charter for the Medical Institution was granted in 1810, Smith saw great possibilities for a medical school in New Haven and told one pupil, Timothy Gridley, of the Yale class of 1808, that it would excel very much any school this side of Philadelphia. He also told Gridley that if there was a vacancy, and the faculty of Yale College would request him, he would accept it without hesitation. This, and more, is found in a letter of Gridley dated at Hanover, November 10, 1810, and written to his classmate Jonathan Knight.[14]

In 1812 Nathan Smith still wanted to come to Yale and by then Yale wanted him, with but one dissenting voice, that of the president. President Dwight at that time was convinced that Nathan Smith was an atheist and that Yale could not take any risks of spreading such infection. The fact was that Smith from time to time had expressed views somewhat in line with those of Thomas Paine and Ethan Allen, both of whom were then being widely read. According to Benjamin Silliman, Smith was quick to deny any such views and as a result did become full acceptable to Yale. History shows that he never wavered in his profession of faith and that while living in New Haven he attended church regularly.

The reputation of Nathan Smith preceded him to New Haven and he soon gained a wide practice there which took him to all parts of the State. In 1821 he made another excursion in medical education by having a large part in the founding of the Medical School of Maine at Bowdoin College. Another Smith enterprise, father and son, was the establishment of the Medical Department at the University of Vermont. Still another medical school benefited from his wise counsel when his son Nathan Ryno Smith and his Yale College classmate George McClellan founded the Jefferson Medical College at Philadelphia. Four of Nathan Smith's sons became physicians.

Smith's final years in New Haven were those of lecturer, surgeon and writer. His contributions to scientific medicine remain no less noteworthy than those to medical education. His essay on necrosis is a classic. His pioneer work in surgery includes improvements in managing fractures and dislocations, his operation for ovariotomy, second only to that of McDowell, was first in embracing the modern principles of abdominal surgery. His most important single contribution to medicine was a clear definition of typhoid fever as an entity. In the words of William H. Welch, "He did more for the general advancement of medical and surgical practice than any of his predecessors or contemporaries in this country."[15] He died in New Haven in 1829, at the age of 67.

When Eli Ives was appointed to the medical faculty he was 34. His father Dr. Levi Ives was a prominent physician of New Haven and a founder of the New Haven County Medical Society. After graduation from Yale and after studying medicine with his father and Dr. Eneas Munson, Ives attended lectures in Philadelphia and then settled in practice at New Haven. He was acknowledged as the leading spirit in the Medical Society during the negotiations with Yale College. After succeeding to Eneas Munson's chair on the faculty he kept that position until 1826 when he was transferred to the chair of theory and practice of medicine. For a number of years Ives maintained at his own expense a botanical garden adjacent to the Medical School on Grove Street. A significant contribution of Eli Ives is seen in his efforts toward the purification and standardization of drugs. In 1860, when the American Medical Association met in New Haven, Eli Ives was elected president. He died August 8, 1861.

At the time of the opening of the Medical School in 1813 the youngest member of the faculty Jonathan Knight was 24 years of age. Like Silliman he had been caught young and like him too he had been deflected into the teaching of medicine. His father by the same name was a physician at Norwalk, Connecticut and here Jonathan was born September 4, 1789. After graduation from Yale in 1808 he taught school for a while before entering medical practice. It is interesting to note that all the members of this first medical faculty had done the same thing. This was common practice for a young graduate and of course excellent training for a teaching career. Knight became a tutor in the College as did all of the others excepting Smith. By 1811 he had been prepared for medicine and was licenced to practice. In the fall of that year at Silliman's behest he went to Philadelphia for a course of medical lectures. In April 1812, as has been noted, he was appointed assistant to Cogswell on the medical faculty. He was naturally concerned about his status after the Smith appointment but Silliman assured him this meant a great deal to the school and that "in the meantime you can be growing up to take his place by and by."[16] This is exactly what took place in 1839 at the death of Dr. Thomas Hubbard, Smith's immediate successor.

Some historians have recorded that Jonathan Knight was twice elected president of the American Medical Association. This is not strictly true. Knight in 1846 and 1847 was president of the convention which later became the American Medical Association. In 1853 the Association did elect him president. Jonathan Knight had an extensive medical practice and was very active in medical society affairs both local and national. With Silliman and Ives he was granted long years of service to the School of Medicine. He died April 25, 1864.

In surveying the beginnings of medical teaching at Yale we find two unusual features in the picture, one, being the sharing of a dual responsibility with a state medical society in the teaching program; the other, the close integration of the School with the College. From the first the medical students were subjected to the same rigid discipline and college laws that existed for other students. Prayers were held morning and evening at the Medical Institution, the professors officiating.

In reality the lecture courses given at the Medical Institution were of the nature of postgraduate study as we know it today. With the exception of anatomy there were no other laboratory exercises. As long as the apprentice system lasted the close cooperation with the Medical Society was one of expediency. When that system was abandoned this need no longer existed and the strength of each group could be now expended in new directions. The founding of the Medical Institution of Yale College, like that of the Connecticut Medical Society, took wisdom and courage and faith in the future. The uncertainties and challenges of that day were no less real than those of our own. In learning about our medical ancestors the highest purpose to be served is that by their example our own inner resources can be strengthened.

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Convocation

Commemorating The Sesquicentennial Anniversary Of The Founding Of The Medical Institution Of Yale College

PROGRAM

Friday, October 28th

Morning Session, Ten-thirty o'clock, Sprague Hall

PRESIDING— Vernon W. Lippard, Dean, School of Medicine

WELCOME— A. Whitney Griswold, President of the University
Abraham A. Ribicoff, Governor of the State of Connecticut

GREETINGS—John N. Gallivan, Representing the Connecticut State Medical Society
Norman A. Welch, Representing the American Medical Association
John McK. Mitchell, Representing the Association of American Medical Colleges

ADDRESS— "Medical Science in the Twentieth Century"
Sir Howard Florey, Professor of Pathology, University of Oxford

Afternoon Session, Two o'clock, Sprague Hall

PRESIDING— George W. Pierson, Larned Professor of History

"Medical Education at Yale in the Twentieth Century"
Vernon W. Lippard, Dean

"Medical Research at Yale in the Twentieth Century"
Averill A. Liebow, John Slade Ely Professor of Pathology

"Medical Science and the Future"
C. N. H. Long, Sterling Professor of Physiology

"Clinical Medicine and the Future"
Paul B. Beeson, Ensign Professor of Medicine

Reception, Four-thirty o'clock, Sterling Hall of Medicine

Saturday, October 29th
Morning Session, Nine-thirty o'clock, Yale Medical Library

PRESIDING— Frederick G. Kilgour, Librarian, School of Medicine

"Medicine in the Nineteenth Century"
Lloyd G. Stevenson, Dean, Faculty of Medicine, McGill University

"The Medical Institution of Yale College in the Nineteenth Century"
Whitfield J. Bell, Jr., Research Associate in History

A Student Of Dr. Nathan Smith

OLIVER S. HAYWARD, M.D.
New London, New Hampshire

PROFESSOR Nathan Smith of Yale and Dartmouth as seen by his students is a happy figure, easy to draw, pleasant to contemplate. There is ample documentation from many famous pupils that they all considered him a magnificent teacher and a true genius as a practicing physician. The present problem is to select the most convincing evidence. An important witness might be Amos Twitchell[1] who could tell of the terrible mood of depression that settled on him in the first year of his practice and how Smith devoted three long hard days to curing him, using every bit of personal information he had learned during Twitchell's apprenticeship.

Another witness might be Ezekiel Dodge Cushing[2] who later studied in Philadelphia and France. He wrote to his family graphic and often unbelievable stories of Smith's practice and how he taught his cavalcade of students on horseback and in the kitchens and bedrooms of a hundred distressed homes. Should we accept at face value Ezekiel Cushing's evaluation,[3] "Dr. Smith gives infinitely better lectures on surgery than Dr. Physick and certainly more useful ones on the Theory & Practice of Physick than Dr. Rush," or take seriously Henry Bond's[4] lament, "Woe unto thee, Dartmouth, for thy glory is departing—Dr. N. Smith has concluded to move to New Haven."?

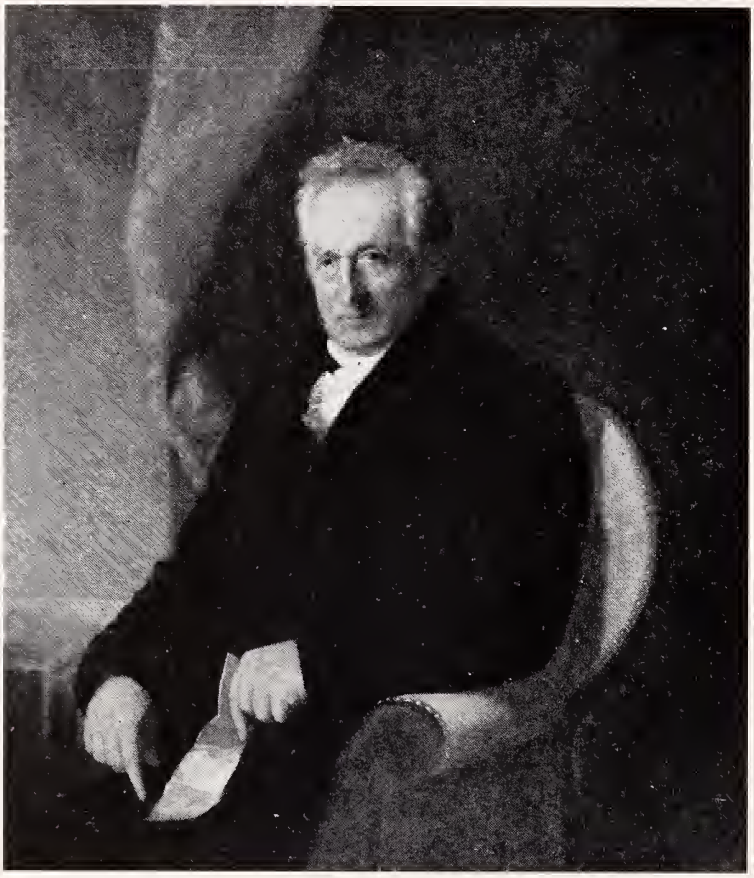
We might use the reminiscences available to O. P. Hubbard[5] when Isaac Patterson[6] and A. J. Lowe[7] wrote so interestingly to him (for the 83rd Anniversary of the founding of Dartmouth Medical Institute in 1879) of Smith's zeal, perceptiveness, and wit, or we could search further among the letters of the great Ashbel Smith[8] who, applying Smith's precepts all his life, became Secretary of State to the new Republic of Texas and later its Surgeon-General.

We might profitably comb the extensive correspondence of Nathan Smith with his two closest friends, Lyman Spalding[9] of Portsmouth, New Hampshire, who was Chairman of the Committee for publishing the first United States Pharmacopoeia and George Cheyne Shattuck[10] who established the great tradition of the Shattuck family in Boston medicine. Both wrote letters filled with appreciation and admiration.

Perhaps the most convincing evidence of Smith's stature as a teacher comes from the diary of a Connecticut student, William Tully.[11] He was a most reluctant witness and may therefore be more readily believed. Tully never became his friend. He went to Hanover somewhat against his will, was miserable throughout his stay there, wrote exhaustively in later years on many subjects without ever mentioning Smith by name again. He was bombastic, quarrelsome, irritating, and for the most part, unappreciative. But he became a great teacher himself with a precise approach to wisdom and a most enthusiastic group of students of his own. Of all Smith's students he was perhaps best equipped to understand his teacher's skill and devotion to medicine and medical education.

Tully at twenty-one came to Hanover fresh from graduation from Yale (1807) and a nine-month preceptorship under his dear friend, Dr. Mason Cogswell of Hartford, Connecticut. He speaks of Dr. Cogswell in glowing terms: "In the Doctor, extensive Science, correct literary taste, and the utmost suavity and elegance of manners, are happily combined."[12] His reasons for leaving him and for going to Hanover were frankly stated, if not very flattering. He would have access to a complete anatomical museum and would see dissections. He was "aware" that he would see but little practice. This is a puzzling statement since Smith had one of the largest practices in New England and invited his pupils habitually to accompany him. Time and again Tully argued himself out of attendance on patients. He did, however, admit that living expenses in Hanover would be less than in eligible places in Connecticut and "thus economy and improvement presented a double inducement to spend the winter under Dr. Smith."[13]

Because of the dirty taverns he found in Hanover, he became prejudiced against Dr. Smith before he ever met him and wondered if his long, difficult, and trying trip had been ill advised. Perhaps Smith's students, Messrs. Hunt and Simmons, whom he had consulted in Connecticut had been as mistaken in the excellence of their teacher as in the adequacy of the lodgings. On September 26 Tully first met Nathan Smith and found him "a man of medium height, rather thin and spare, his



(Courtesy of Yale University Art Gallery)

Professor Nathan Smith*

dress quite plain, very heedlessly chosen and carelessly put on. He received us in a blunt but civil way . . . very much like a Connecticut farmer."[14]

Smith was proud to announce that the great Scotch anatomist, Alexander Ramsay, would give the course in Anatomy and Physiology (a triple relief for the busy Professor who would then not have to teach these courses nor spend his time procuring anatomic subjects—a dangerous, tiresome, and quite illegal business). Tully was not as impressed by the excellent teaching advantages thus disclosed as he was by the shocking lack of politeness which allowed his professor to discourse thus without introducing the ladies of his family, three of whom were sitting silently engaged in some kind of needlework and acting as though they had never been introduced to a gentleman in their lives.

They still had not been introduced when upon invitation Tully sat down to dine with them. There was no "Blessing or even compliments of any kind. The food was nicely dressed and wholesome, consisting of beef, pork, and vegetables of various kinds, all served up in Farmer's way."[15] Since all ate in silence, Tully took the liberty of mentioning the intended medical establishment at Yale. This was five years before the event and may well have been Smith's first knowledge of the plan. The Doctor was very interested in all its features, most of which he admired, but he felt that bringing the State Medical Society into the organization would be a mistake because such societies usually fall so far short of their good intentions. He said that he had been unable to obtain any assistance from the New Hampshire Medical Society (and he might have added that he had become a member in 1791 and was then Vice President and one of the Censors; also the honored Orator at their meetings on many occasions; he became President in 1812 after four years as a vigorous Vice President who had proposed many new doctors for membership).

Smith told Tully that he believed it right for the State to subsidize literary establishments for buildings and equipment, but that the teachers' salaries should come from the pupils. He cited Harvard as a bad example of the effect of endowed chairs. No improvements had been made since 1750, the medical professors read the same lectures verbatim now that they had twenty or thirty years ago. Since Harvard Medical School was opened in 1782 and Smith was the fifth graduate in 1790, we may assume Tully misquoted him in this instance as he did later in saying that Smith started practice in

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* By Samuel Finley Breese Morse.

Windsor, Vermont, when he actually started across the Connecticut River in Cornish, New Hampshire, and that Smith went to Columbia College in New York when there is no evidence that he ever was in New York State at all. It is true that he returned to New Hampshire from his studies in Edinburgh several thousand dollars in debt, but it is not true that he soon paid it all back, as Tully also reported in his Journal. Twenty years later Smith was still paying his debt and creditors "embarrassed him" all his life and his family after his death.

In later years Tully grossly misrepresented Smith to James Hadley of Yale. Hadley in his Journal March 5, 1843,[16] remarks

> Will state some particulars which I learned from him [Dr. Tully]. Dr. Nathan Smith was an illiterate man. Never could read a printed book with fluency—wrote a lecture in New H. but could not read it. Married rich. Went to Edinburgh and studied there. Came back with the idea of starting a medical school. Applied to Yale for the countenance of the Corporation—found he was illiterate and turned him off.

I have read several hundred manuscript letters of Smith's, numerous medical papers which he wrote and of course his classic, "Treatment of Typhous Fever," also William Tully's manuscript diary and several dozen of his letters. I would say that they both were amazingly accurate in their spelling, but that, if anything, Smith was a slightly better speller than Tully and was much better with punctuation. The flow of thought in Smith's work and the development of his ideas mark a thinking, educated man and are perhaps more coherent than that of Tully's work. Certainly Smith was well educated even though he never went to any college. It is true he missed the great privilege of sitting under Timothy Dwight. Tully confused Smith's use of colloquial speech with lack of education. He cannot imagine that anyone who did not have all the advantages he had, particularly of going to Yale College, could possibly have the education of a gentleman. The important point, of course, is that Smith had enough education so that he could express himself cogently. What he taught, his students never forgot. Both men taught as crusaders and their students learned to think for themselves.

A. J. Lowe[17] expressed it well when he said,

> I suppose Dr. Smith was not considered as a learned man in the usual accepted sense of the term. It was generally understood that his preparatory education was limited by his surroundings; but it is certain he did learn even as he ran: his lectures were delivered in language clear and strong: and his writings were vigorous, pertinent, and intelligible. At the time I was with him he was editing an edition of "Wilson on Fevers" for which he furnished many new articles —which was then in the course of publication at New Haven. His additions to this work were highly valued by the physicians of his time, for their strong sense and close logical reasoning and even to the present day—as I have recent assurance, they are regarded by our most eminent physicians with great favor.

Aside from these misstatements Tully has proven accurate wherever he can be checked. There is no reason to doubt that Smith's conversation with young Tully included high praise for President Timothy Dwight and the opinion that Yale now had "the pre-eminence of every College in the country and was in the fairest way to preserve it, especially should Dr. Dwight be spared long enough to put his many excellent plans for its improvement into execution."[18]

Tully decided after his dinner at the Smith home against returning at once to Connecticut, though the Dartmouth teaching equipment left him still dubious. "We had received evidence of the excellence of Doctor Smith, and we had not the least reason to suppose but that his lectures would be quite as good as common fame represented them,"[19] but Dr. Smith's laboratory was a source of some uneasiness.

> This room is only two of the collegiate rooms [No. 6 in Dartmouth Hall] converted into one by removing a partition. Seats are made on one side of it like those in the gallery of a church, and on the other stands a large and long table upon which the doctor performs all his chemical experiments, and I suppose makes his dissections. In a closet adjoining were a few retorts, a Nooth's and a Woulfe's Apparatus and a few other very common articles. One furnace a number of students were then using in the collection of phosphorous from calcined bones. None of them seemed to know much about the business yet, by good luck, they had tolerably good success. Professor Siliman's apparatus for one lecture would have completely filled Doctor Smith's Laboratory.[20]

The course of lectures had not begun. Tully was reluctant to start reading medical books until he knew Smith's method of teaching. Reasonably enough he proclaimed that "desultory studies to novices we thought not very profitable,"[21] and turned for amusement to the recently published chitchat of "Salmagundi."

It is a little harder to see how he argued himself out of watching some surgery even though the operation for an aneurism was to be done seventeen

Courtesy Yale University Art Gallery

Professor William Tully
by Ezra Ames

miles from Hanover. (Could Tully have been a poor horseman?) It seemed to him like skinning a flint for three pence and spoiling a knife that cost six pence. Even if the patient had only been one-half a mile away, he would "have felt sheepish at attending with such a concourse of students as the good doctor commonly has with him. The fact is a student cannot be benefitted by practice at any Medical College unless he has the advantages of attending a hospital."[22] (Dr. John Warren at Harvard agreed heartily with this viewpoint and was striving mightily for visiting rights for his pupils at the municipal hospital. Unofficially he sometimes succeeded in getting them in, but officially he and Benjamin Waterhouse were not to succeed for many years.) Dr. Smith was to build the great amphitheater of Dartmouth Medical Institute three years later, but at the time of the Diary there was not a place in all New England where the student could observe at a hospital. Tully would settle for nothing less, but

> many of the medical students in this instance were unwise enough to be at much pains and expence to hire horses and to post off breakfastless to the patient's house, not to return probably [!] till midnight, a dollar or two expended, a day's study lost [which Tully hadn't started yet, being still on the third essay of "Salmagundi"], themselves fatigued, and six-cents worth gained.[23]

It seemed as if Tully just did not want personal contact with country people.

> I wonder how many times in the course of this journal I have made and shall make comparisons between Yale and her faculty and Dartmouth and hers, invariably to the disadvantage of the latter.
>
> I suppose I should be thought prejudiced by people in general though, I am confident, by few that are acquainted at both places. Mr. Hotchkiss, I remember, says that sitting four years under Dwight and his subs invariably spoils a man for liking anybody else, and I believe the remark is partially true.[24]

When Doctor Smith's lectures began on October 5, it was a very dubious Tully who sat down in the laboratory at the appointed hour of three o'clock with fifty or more fellow students.

> The Majority of us were, undoubtedly, the wrong side of thirty, and a few probably over forty. I cannot say that I liked the general appearance over much. Such a motley colection, I am sure, I never set my eyes on before. Some seemed to be so awkwardly put together that, at first view, one would almost suppose that chance was the agent

in their formation.—The Clothes of some had, unquestionably, been in fashion as often as Hunks's Coat; and they were, in general, so hidiously put on that I hardly dared to trust myself with a second view. I found that I was like to be a Pigmy in comparison with several, and a giant with others. In order to view one from end to end, I found it necessary to bring my eyes into a perpendicular direction like a Squirrel. I enquired the name of this individual, and found it was Abbot. The appearance and deportment of several denoted the complete gentleman, and among these were Thurston, Putnam, Hartwell, (whom I saw at Doctor Smith's on first calling,) and two or three that I did not know. On reviewing the company, they did not appear half as bad as at first, and I perceived at last that much of my disgust arose from the total want of uniformity among them. I felt, forcibly, the propriety of establishing a uniform for all members of literary Institutions, and I began to be conscious that much of the applause that the Students of Yale-College have gained for their appearance has been owing to a similarity of dress and behaviour which they generally fall into by the end of the first term, Freshman-Year.

Doctor Smith after a while slipped into the room and seated himself, almost without our knowledge. I had really been expecting some of Professor Siliman's majesty and grace, and I felt a kind of disgust from my disappointment.—His Introductory address was altogether extemporaneous, and couched in the most colloquial phrases. It was pithy however, and in spite of its want of elegance I could not but like it tolerably well. By this time I had got past being disappointed at anything that I should meet with in Hanover, and I made up my mind, to be attentive to the matter only and not to the manner of what my Instructor and fellow Students should say. As I had just got into this frame of mind, the embarassment of the Doctor's first address was over, and the man of true erudition, and the master of his Profession was manifest.—He seemed determined, that every one should have the full benefit of his instructions, however triflingly he had prepared himself to attend such a course. His subject was the Introduction to Chemistry. What he laid down was done with great precision, and his divisions were Lucid and satisfactory.[25]

Tully outlined the routine of student life: breakfast at 8:00, lecture from 9:00 to 10:30. Then till noon reading. Noon till one o'clock exercise. Then dinner until two. From 2:00 to 3:30 another lecture, then study until tea time. Then exercise until 6:00 P.M. Six to 7:30 lecture and the remainder of the evening with friends. Wednesday afternoon public speaking in the Chapel delayed the lecture till three and Wednesday evening Society meetings replaced the lecture. On Saturday two lectures only.

Courtesy Yale University Art Gallery
William Tully as a Young Man.
(Miniature.) Artist unknown.

On October 6 he started his first medical book, Chaptall's Chemistry.

From Saturday, October 8, to Wednesday, November 2, there were no diary entries as the time was passed monotonously in the busy routine, Dr. Smith lecturing regularly except for three days

> when he was called to attend a sick brother in medicine who had formerly administered to him in similar circumstances without fee or reward. During this absence Doctor Noyes supplied Doctor Smith's place. This man had been some years a tutor of the college and assistant lecturer to Smith. He is a man remarkable for his ingenuity and his mechanical talents but like other great mechanics he never finishes anything. I think in the plain sailing of chemistry he did as a lecturer quite as well as Doctor Smith. From having had an earlier education he has more and better words at command than the good doctor, and from not being called to converse so much with the ignorant people of country places his style was much less colloquial.[26]

On November 8 Dr. Smith's plan to make this the best medical course ever taught at Dartmouth was furthered by the arrival of Alexander Ramsay, the Scotch anatomist who has been called the "Caliban of Science."

> He is a little rickety fellow, not four feet high but with a face large enough and a body big enough round for a man of 7 feet. The hump on his back is as large as a Pedlar's wallet and his legs are semicircles. He has a mighty commanding air, however, and his look seems to say, *"stand off, for I am holier than Thou."* To morrow-evening, as a pompous Advertisement in the Dartmouth Gazette says, he is to deliver "hints on Medical Education at Rowley's Assembly-Hall"——————The Ladies, and what not, are all invited. I hope none of them that calculate to attend are in a way of being like to "Tumble to pieces"; for if they are, I tremble for the consequences. I do not do right, however, to run on in this way: for Dr. Ramsay, I suppose is one of the first Anatomists and Physiologists in the world, though I am told a petulant disposition nearly spoils his usefullness. Dr. Smith will, undoubtedly, manage well enough with him, but most people think the wilderness of Fryburgh [Maine], where he has actually pitched his tent, is the most proper place for him.
>
> On Thursday his Anatomical Lectures commence, and next Sabbath evening he begins a course on Natural-Theology.
>
> He is so full of his *Technics,* his *non-Pareils,* his *fauxpas,* and the like that, together with his Scotch dialect and accent which he sometimes uses, I question whether two thirds of his Class understand him fully.
>
> For my part, I rejoice, that I understand Latin and Greek, and have a smattering of French, else I should be quite in the dark. I find advantage too, from having read Burns's Poems, for though I thought, in the time of it, that I was very near wasting my leisure, yet familiarity with the Scotch accent is now of service.[27]

Either because Tully could find nothing to criticize and therefore nothing to enter in his Journal, or because Smith kept him much too busy, there is no entry from November 14 to December 14 and then quite a revealing note:

> Quite a dearth of incident, for a Journal, for this some weeks past. The Lectures have gone on in their old round. Dr. Smith we admire and revere, more and more, as we know him better. Ramsay gives us information by his very extensive Anatomical-Museum and his Lectures, but we have found he is a pettulant, conceited, ranting fellow. Dr. Smith is getting, by his assistance, the best set of Anatomical-Preparations in the Country and he says that Ramsay is helping him enough to earn his five hundred Dollars a month, the wages, which he receives.[28]

Tully's final judgment at the end of the course was that Smith's school was excellent, but that it should be moved out of Hanover.

> At Dartmouth, it is said that the students have come to years of discretion and if they do not do as they ought, the loss is their own. The Faculty decline using compulsion. Of Advice, they are liberal. A student may become an excellent scholar, but he is never obliged to study. There has never been any subordination either among the different Classes of undergraduates, or among the Officers and Students.
>
> Such a System as this cannot be very excellent, but yet it is far better than none. The example of the other New-England Colleges, if nothing else, will, in time, lead to improvements, and in case it is ever removed from Hanover, it will undoubtedly be stationed in a place ten times more advantageously situated for a Literary Institution. Of Dr. Smith's School, which is connected with the College, I cannot speak too highly, but I have my doubts whether after Dr. Smith any deserving man will take charge of it, under so many inconveniences.[29]

Tully felt that he could not endure the winter term (as some Dartmouth men have felt since):

> This morning, attended Doctor Smith's Valedictory Lecture. The course was finished, much sooner than I expected when I left home, but then I supposed I should hear perhaps but one Lecture a day, whereas, we have regularly had three. Hanover is so unpleasant that I, long ago, determined not to stay, only till the winter term should be ended. The instructions for the remainder of the year, I understand, are three Lectures and two examinations every week, a course of reading, and attendance upon all Dr. Smith's practice.
>
> Degrees are conferred at the annual Commencements. The qualifications for that of Bachelor of Medicine are: a Liberal-Education with the degree of Bachelor of Arts, three years study of Medicine, two courses of Lectures on Anatomy, Physiology, Hygeina, Pathology, Semiology, and Therapeutics, passing an examination and submitting a dissertation, to the acceptance of the Faculty of the College. Without a Liberal education, the qualifications are the Same, except that the term of study is extended to five years.[30]

Tully had no intention of earning his M.B. there. He made the long and perilous journey to Hanover again in 1809 and took the course again, proving how much he valued it. Perhaps the fact that he kept no Journal in 1809 meant that he had become inured to hardships; perhaps he had just matured a little.

However, Tully never seemed to have realized quite completely how greatly indebted he was to Nathan Smith. He never had the sense of humor to appreciate the wisdom behind Smith's colloquialisms. Isaac Patterson wrote October 13, 1879, to O. P. Hubbard,

> He [Smith] would sometimes joke the class upon the practice of physic, saying that it was questionable whether they could do any good or not, that it was a pleasant thing to be called Dr.—sent for & consulted & that he could not see how they could get a living without—that in his own case, if anything was the matter of his family he did not give medicine, but sent for old Mrs. Dewey—Dea. Dewey's wife.[31]

To Smith was due much of Tully's own success in later life when he became Professor at Yale Medical Institution, the successful author of the most outstanding book on materia medica of his time, and the consultant who was used constantly by other physicians on the most difficult cases. Smith taught him his own marvelous method of using his great intellect to perceive the hints and suggestions in the patient's behavior which would allow him to adopt the correct treatment. In addition, he developed the same iconoclastic attitude toward the pharmacopoeia which Smith had and he was able with Smith's instructions to adopt a modern and truly scientific attitude toward the bewildering and often ineffectual or dangerous pharmacopoeia of his time. After Nathan Smith, Tully was perhaps the most effective man on this Continent in improving therapeutics and was a worthy predecessor of the great Sir William Osler who did so much to prepare the medical mind toward the more cautious and intelligent approach to therapeutics which we like to believe characterizes the present generation of physicians.

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Education For The Practicing Physician: The Postgraduate Program At Yale

ARTHUR EBBERT, JR., M.D.*
New Haven

In the decade and a half since World War II, there has been a steadily growing interest in postgraduate education for the practicing doctor. This has been stimulated to a considerable degree by the tremendous advances in medical science during this period. New concepts of health and of disease mechanisms, new diagnostic and therapeutic techniques, and a myriad of new drugs have appeared with great rapidity. The conscientious doctor, whether family physician or specialist, has learned that in medicine today practice does not make perfect. Something else, namely continuing education, is needed. It is essential that the practicing doctor be a perpetual student.

There are many ways in which the physician can continue his education. In addition to medical reading, individual professional contacts with colleagues and consultants, attendance at hospital staff and medical scientific meetings, programs offered by medical schools have assumed considerable importance. A recent survey of postgraduate education in the United States (1952-1955)[3] revealed that medical schools were the primary or operating sponsors of almost 90 per cent of the total postgraduate hours offered. It is apparent that doctors look to the medical schools for leadership in this field. The Yale School of Medicine has been increasingly active in providing educational opportunities for the doctors of Connecticut. The purpose of this report is to describe the Yale program of postgraduate medical education and to discuss some of the problems encountered in the development of such a program.

Immediately following World War II there was great demand for refresher courses. Doctors, young and old, who had spent several years in wartime military service recognized a need to review and expand their medical knowledge. With the support of the Connecticut State Medical Society, a postgraduate program at Yale was organized in 1947, and refresher courses in a variety of subjects were planned. The Bulletin of Postgraduate Medical Education for 1948-49 lists 24 separate courses for practicing physicians. About 1950, however, the demand for such courses began to diminish, and as interest lagged, various courses were discontinued. A review of the postgraduate program in 1953 revealed that very few courses were being offered to meet the needs of the practicing physician. Most of the courses at that time were designed for specialists or for those who were preparing for a specialty. There was an apparent need for review courses of a more general type.

After discussion with members of the faculty, interested physicians throughout the state, and committees of the State Medical Society, it was decided to offer special postgraduate courses for practicing physicians to be held one afternoon a week—each course being a series of six or eight afternoon sessions. The first such course, Management of Chronic Pulmonary Disease, was held in the fall of 1954, and similar courses on various broad subjects have been offered subsequently once or twice each year. A list of these courses is shown in Table 1.

TABLE I
SPECIAL POSTGRADUATE COURSES FOR PRACTICING PHYSICIANS
1954-1959

Management of Chronic Pulmonary Disease—1954
Management of Hematologic Problems—1955
Infectious Diseases: Problems of Clinical Diagnosis and Management—1955
Diabetes Mellitus—1956
Endocrine Disease and Hormone Therapy—1956
Medical Management of Digestive Disorders—1957
Diagnosis and Management of Cardiopulmonary Disease—1958
Advances in Diagnosis and Management of Heart Disease—1959
Diseases of the Liver, Pancreas, and Biliary Tract: Diagnosis and Management—1959

It should be emphasized that these courses have been designed especially to meet the needs of the doctor in practice. Each has been planned as a continuum to review pertinent basic science material and current concepts of diagnosis and management. Attempt has been made to avoid a series of isolated lectures but rather to present, in each session, discussions by several members of the faculty followed by a period for questions from the audience. In many of these courses, case presentations and demonstrations have been used. In response to many requests, the time of these courses during the past year has been shifted from afternoon to evening.

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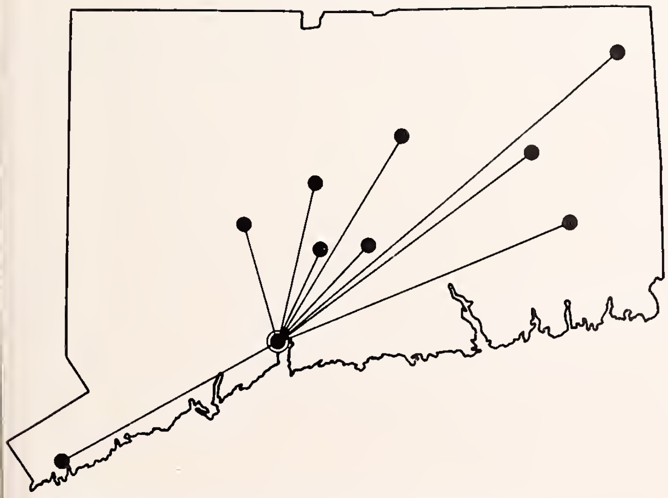
In general these courses have been well received although the total enrollment has been disappointing. The registration of practicing physicians has ranged from 13 to 56. This count does not include interns and residents from the various community hospitals. Nevertheless, it has been gratifying to note that those physicians who have registered usually have attended each weekly session throughout the duration of the course. It is interesting that the courses in Advances in Diagnosis and Management of Heart Disease and Diagnosis and Management of Cardiopulmonary Disease drew the largest attendance.

Postgraduate courses given at the School of Medicine attract a relatively small percentage of the doctors in the state. This situation is not peculiar to Connecticut, and directors of postgraduate educational programs throughout the country have given much thought to the question of how to reach physicians who cannot or will not travel to neighboring medical centers. One answer is to take the educational program to the doctor. We believe that this can be accomplished most effectively through programs in community hospitals.

Figure 1
Community Hospitals In Connecticut
With Postgraduate Programs Arranged
In Cooperation With The Yale School Of Medicine
1959-1960



Manchester Memorial Hospital, Manchester
Meriden Hospital, Meriden
Middlesex Memorial Hospital, Middletown
New Britain General Hospital, New Britain
William W. Backus Hospital, Norwich
Day Kimball Hospital, Putnam
Stamford Hospital, Stamford
Waterbury Hospital, Waterbury
Windham Community Memorial Hospital, Willimantic

Since 1948 the School of Medicine has given postgraduate courses in hospitals throughout the state. Originally these were lecture series; subsequently less formal teaching conferences have been tried. This endeavor has met with varying success. Several programs have been discontinued because of dissatisfaction on the part of the hospital staff or poor attendance. Others, however, have been considered highly successful. In one case, the Waterbury Hospital, the program has been in effect continuously over a period of 12 years and has expanded considerably. Although such programs contribute greatly to the intern and residency training program, it must be emphasized that their primary purpose is continuing education for the practicing doctors of the community.

There is a growing demand for this type of postgraduate education. During the past year (1959-60), the school arranged such programs for nine community hospitals outside New Haven (Figure 1). This group represents about 40 per cent of all Connecticut voluntary (nonprofit) general hospitals of over 100 beds. Although each hospital program is tailored to meet local needs and the desires of the staff, two general types of programs, designated as Plan A and Plan B, have been offered. In each case, members of the medical school faculty visit the hospital for teaching conferences at a time most convenient to the hospital staff.

Plan A consists of monthly lectures or clinical conferences during the academic year for a total of eight or nine sessions. The subject matter includes a variety of topics chosen by the hospital staff or its educational committee. An example is shown in Table II.

Table II
Schedule of Monthly Clinical Conferences Arranged for a Community Hospital
(An example of a Plan A postgraduate program)

September	—Management of Diabetes Mellitus
October	—Fluid Balance in Surgery
November	—New Viral Diseases
December	—Management of Burns
January	—Antibiotic Therapy
February	—Problems of Blood Clotting
March	—Pre and Postoperative Treatment in Surgery
April	—Pulmonary Fibrosis and Emphysema

Plan B is a more extensive program with monthly case-oriented clinical conferences or "grand rounds" in one or more of the major specialties, again extending over an eight or nine month period. Thus the hospital staff may elect to have a session each month devoted to each of the following specialties: medicine, obstetrics and gynecology, pediatrics, and surgery including the surgical specialties. A case selected in advance is presented by a member of the hospital staff and discussed by the visiting speaker from the medical school. In most instances the case presentation is used to introduce a general discussion of the problem involved with particular emphasis on diagnosis and management.

Active participation by the hospital staff is considered essential for the success of these postgraduate programs in community hospitals. They are undertaken only where there is evidence of serious interest in continuing education by members of the staff and where a director of medical education, at least part-time, is responsible for local arrangements. After the hospital staff has expressed its preferences of subject matter and speakers, the schedule is arranged by the Office of Postgraduate Medical Education at the school. This office also administers the financial aspects; the faculty receive honoraria for their participation, and the hospital is billed accordingly. Because the number of programs that can be offered in any year is limited, they are restricted to hospitals in the State of Connecticut. Also, our experience has shown that a hospital of less than 100 to 150 beds has difficulty in getting sufficient staff participation to make such an activity practical.

The program which has been in effect since 1951 at Middlesex Hospital in Middletown is organized differently. Here a member of the medical school faculty is appointed to serve as part-time director of medical education. In addition to making rounds three mornings each week with the hospital intern staff, he arranges three weekly teaching conferences one of which is a "grand rounds" for members of the staff. Other members of the Yale faculty, representing various clinical departments, participate in the Middlesex teaching conference, twice each month.

In addition to the periodic refresher courses and the hospital programs which have been described, courses of more limited interest arranged especially for particular specialty groups have been offered annually at the school. These include courses in surgical anatomy for practicing surgeons and hospital residents; a series on radioisotopes, X-ray physics, and radioactivity for radiologists; a series of monthly post-graduate conferences for ophthalmologists; and an electrocardiography course. The school also cooperates with other organizations in the sponsorship of postgraduate activities. The Connecticut Seminar in Psychiatry and Neurology, the Connecticut Clinical Congress in cooperation with the State Medical Society, and an annual series of lectures arranged for the Bridgeport Chapter of the Connecticut Academy of General Practice are examples.

Of special note for doctors who are in the New Haven area or within convenient driving distance are the regularly scheduled educational conferences at the Yale-New Haven Medical Center. Weekly staff conferences, seminars, and grand rounds in each of the clinical specialties as well as special lectures by distinguished visitors are open without charge to all physicians. Forty-eight regularly scheduled programs, most of them weekly, represent over 60 hours of postgraduate education a week available throughout the academic year at the Medical Center. These provide the practicing doctor with an opportunity to maintain contact with the medical school environment. He benefits not only by the factual knowledge gained, but also by exposure to the stimulus of eager residents and students. A list of the regularly scheduled educational conferences is mailed to every doctor in the state in September of each year.

Discussion of Yale's contributions in the field of postgraduate medical education would be incomplete without mention of the library. Although every conscientious doctor maintains a collection of basic texts and selected journals, additional reference material is often desired. The Yale Medical Library Committee has recently reaffirmed its policy of granting full reference and borrowing privileges to physicians and dentists as a professional courtesy. This is an expression of the school's desire that the Yale Medical Library be of service to practicing doctors and particularly to those of Connecticut.

The Office of Postgraduate Medical Education is responsible for planning, organization, and administration of postgraduate programs in cooperation with the various departments of the school. This office, under the direction of the associate dean, also provides liaison with the State Medical Society and other organizations interested in postgraduate medical education. The entire program is reviewed each spring, and plans are made for the following academic year. In September a bulletin describing the programs to be offered is sent to each physician in the state. This office also publicizes special programs and issues a weekly schedule of events taking place at the Yale-New Haven Medical Center.

In Connecticut, as elsewhere throughout the nation, the task of providing postgraduate education for practicing doctors is complicated by numerous problems. One of the major problems is making available sufficient faculty time to meet the steadily growing demand.[2] It must be remembered that a medical school has as its primary responsibility the education of candidates for the M.D. degree. Nevertheless, throughout the years, this nation's medical schools have assumed many additional educational responsibilities. These include graduate students in the basic medical sciences, public health students, clinical and research fellows, interns and residents, nursing students, and laboratory technicians as well as the practicing physicians enrolled in postgraduate courses. Many educators believe that the expanded programs of some schools have jeopardized the education of the medical student.[1]

At Yale during the past year, in addition to 302 candidates for the M.D. degree, instruction was offered to 379 other students. There were 48 public health students, 174 postdoctoral students including interns and residents, 99 clinical and research fellows, and 58 candidates for M.S. and Ph.D. degrees in the basic medical sciences. The faculty also cooperated in instruction of nursing students and various technicians. These figures are cited to illustrate the many demands upon the medical school faculty.

Although the School of Medicine has been steadily increasing its activities in the field of postgraduate education, it has not always been possible to keep pace with the increasing demand for courses and hospital programs. The Office of Postgraduate Medical Education must guard against imposing an excessive burden on any particular individual or department. For this reason, it has seemed advisable to avoid frequent repetition of courses and also duplication of extramural programs in any one community. Where multiple requests are received from the same community, the hospitals are encouraged to develop a cooperative program. The school is striving to find ways of making better postgraduate education available to more doctors as a service to the medical profession of the state.

Summary

The Yale program of postgraduate medical education emphasizes three major types of courses for the practicing doctor: (a) Review courses designed to cover advances in the diagnosis and management of specific diseases with a series of weekly sessions at the school. (b) Informal monthly or weekly teaching conferences at community hospitals. (c) Courses arranged at the school for those interested in particular specialties. In addition, the regularly scheduled educational conferences of the Yale-New Haven Medical Center are open to all physicians. Through this program the school is making opportunities for continuing education available to a large segment of doctors throughout the state.

The program described has evolved over a period of 12 years and will require further modification to meet changing needs and new challenges. Continued experimentation in this field is essential. The demand is growing, and many important and difficult problems remain to be solved. Postgraduate education is not the responsibility of medical schools alone. Cooperation of medical societies, hospitals, other health agencies, and individual doctors is required. Greater unity of purpose and action is needed. The objective is not necessarily more programs but may be better programs, improved organization, and greater participation in present programs.

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Yale-New Haven Medical Center

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New Haven

The Yale-New Haven Medical Center, which has existed as a functioning concept since 1826, did not become a corporate reality until October, 1958, when representatives of Yale University and the Grace-New Haven Community Hospital received a corporate charter for the partnership which had served the cause of health for 132 years.

The articles of incorporation state: "The purposes, objects and powers of this incorporation are and shall be solely and exclusively to act as an agent of the Grace-New Haven Community Hospital and of Yale University and as such to solicit and receive subscriptions and gifts from individuals and members of the public and from corporations for the exclusively charitable purposes of. . . (the Hospital and the University) . . . and in connection with gifts to Yale University especially to promote the charitable, educational purposes, objects and activities of such University School of Medicine. . ."

The Medical Center's goals were broadly outlined thus: "The efforts of this corporation and its material resources shall be used to improve and advance the protection and restoration of health by strengthening the research, teaching and patient care functions of the Yale School of Medicine and the Hospital and related activities."

The function of the corporation is plain. It is to assist,—not to administer, except in limited areas. The corporation is not concerned with operation.

Its job is to give all the help it can to the furtherance of three main objectives:

1. Long-range, overall planning;
2. Promotion of wide public understanding;
3. Solicitation, acceptance and allocation of benefactions in accordance with the wishes of the donors.

This, then, is the legal genesis of the Yale-New Haven Medical Center, Inc., but like other large enterprises it has a long, interesting and complex family history.

The concept of a medical center in New Haven began with the formation of the General Hospital Society of Connecticut in 1826 to provide a hospital for the community sick as well as an institution in which the program of medical education in the Yale School of Medicne, then 16 years old, could be better carried out. The partnership thus begun has continued without a break to the present.

The Yale-New Haven Medical Center is not unique, though certain phases of its organization and operation come close to that. Similar medical centers elsewhere have grown out of the combination of medical schools interested in teaching and research and hospitals whose chief function is service. There are comparatively few single services concerned with the diagnosis and treatment of patients that are not to be found of equally high quality in other Connecticut hospitals; it is the combination of so many in one place that is unusual.

It is a matter of pride to those of the Medical Center that they have over the years fostered a partnership of institutions which combines the multitudes of complex components which make up a complete diagnostic and treatment health center in an environment where research, teaching and patient care are intimately related.

Because many others in the health professions share this pride, this Medical Center has become a resource for the entire Southern New England region.

Although it is not really unique, in that similar Medical Centers have evolved around other medical schools, this particular partnership *does* have some unusual features not generally understood even by physicians of the area, let alone by the population served.

For one thing, the partnership of University and Hospital is here that of two independent institutions, both voluntary. There are a number of medical centers in which a university owns the hospital as well as its associated school, and there are many in which either school or hospital or both are tax-supported. But of those like the Yale-New Haven Medical Center there are a very few. Examples are the partnerships between Harvard and Massachusetts General Hospital, Cornell and New York Hospital, Columbia and Presbyterian Hospital, Western Reserve and Lakeside Hospital, Washington University and Barnes Hospital in St. Louis, and perhaps one or two more.

The above list calls attention to another respect in which Yale-New Haven is in a class by itself: it is in a relatively small community; the others are in large metropolitan population centers.

One other factor which makes the Yale-New Haven Medical Center truly unique (and which causes substantial administrative headaches) is its trifunctional obligation to act not only as a *"community"* hospital and a *"university"* hospital, but as a *"municipal"* hospital as well.

Let me elaborate. The Medical School carries out a part of its education activities at the Veterans Administration Facility in West Haven, but the greater part of these and virtually *all* of its research and service program is at the Grace-New Haven Community Hospital.

In contrast to nearly all other "teaching" hospitals in the United States, Grace-New Haven also functions as a "community" hospital where-in the patients of qualified general practitioners and specialists who may or may not be associated with the Medical School are hospitalized. This association of community and academic clinicians in the same institution is not common.

And finally, Grace-New Haven wears its third hat as a city or "municipal" hospital. Together with the Hospital of St. Raphael it provides the total acute general hospital facility for the local community. There are no other facilities for acute care of the indigent and medically indigent. As a measure of the size of this obligation, Grace-New Haven Community Hospital last year provided bed-care for approximately one patient out of every four welfare patients so hospitalized in voluntary hospitals last year in the State of Connecticut! It also provided some 15,000 clinic visits to welfare patients.

There are, of course, great advantages as well as complications inherent in this centralization of functions. Private practitioners and academicians have much to teach one another and both have a wider experience to pass on to students and trainees. The resultant melding of practice and theory, with its immediate availability of advanced knowledge and equipment, cannot help but work to the advantage of patients while the stimulation of the association at the staff level is continually carried out into the community with fertile results.

A brief summary of the operations of such a Medical Center must inevitably ignore much of interest and import, yet so little is known about it that even a lick-and-a-promise synopsis may add to understanding. Its contributions to the physicians of the State have been considerable.

It is currently furnishing medical education to 320 medical students from many states and foreign lands. Graduates of this school practicing in Connecticut when last heard from number 655. Its School of Publc Health has 40 graduate students. There are another 40 Fellows and over 175 internes and residents currently getting training in 20 specialties in the Hospital and School.

The Medical School also carries out an extensive postdoctoral educational program for practicing physicians of Connecticut on both a formal and informal basis.

It assumes the primary responsibility for training of medical students and fellows, as well as of public health students, and shares with the Hospital its obligation to members of the resident staff.

The Hospital participates extensively in education at the paramedical level: technicians of several specialties, Social Service, Dietitians, Hospital Administrators,—and nurses.

It joins with physicians in deploring the universal shortage of graduate nurses and is doing all that it can (and often more than it can reasonably afford) to train them. Currently, 335 nurses are in training at the Hospital. These include young women who are candidates for Master's or Baccalaureate Degrees (Yale or University of Connecticut), for a diploma on completion of a three-year course (Grace-New Haven School of Nursing), and for State licensure as Practical Nurses under a program run jointly by the State and the Hospital.

A dozen medical technologists and a score of X-ray technicians are trained each year, and the Hospital has the only approved internship for dietitians between New York and Boston.

Students of hospital administration have been trained in the Public Health School since 1947, and graduates of this course who are practicing their profession in New England alone currently number 27.

Research is primarily a responsibility of the Medical School under terms of a "gentlemen's agreement" developed with the Hospital. While this is helpful as a matter of principle, it is often impossible to make any sharp demarcation. The Hospital, for example, is currently participating with the School of Public Health in a research program on hospital function and design which is attracting national recognition. Aside from a similar study in England under the Nuffield Foundation and one recently begun jointly by the American Hospital Association and the American Institute of Architecture, it is the only one of its kind.

Research activities at the Medical Center defy classification in that they cover projects related to the interests of a large number of clinicians and scientists, but it is significant that the research budget of the Medical Center is currently about three and a quarter million dollars!

The services of the Medical Center are being sought by practitioners over an increasingly wide area, both geographically and clinically and its standing as a regional health resource is growing rapidly in comparison to its purely community functions. Its ambulatory services include over 90,000 visits annually in additon to nearly 40,000 visits to its emergency suite. Last year about half its ambulatory patients came to it from outside New Haven.

As previously noted, Grace-New Haven Community Hospital serves 24 per cent of all welfare patients hospitalized in the State,—about twice the number handled by any other voluntary hospital. While this is a natural and understandable sequel to the provision of extensive diagnostic and therapeutic services, it does present some very substantial operating and financial problems.

While the Medical Center has been described above as a closely-knit partnership between a hospital and a medical school, those responsible for its operation have no such narrow vision of its scope. They recognize that attainment of its full objectives cannot be attained except through a much broader partnership with all its associates in the health field in the large region it serves,—the medical practitioners, other hospitals and public health agencies with whom it is interdependent.

For this very good reason, those of the Medical Center are constantly seeking means for extending its functions as a colleague to these other agencies and individuals throughout the State. They are sincerely anxious to supplement and complement services offered by others,—not to compete with them.

Connecticut's compact geography makes feasible the extensive exchange of consultative, diagnostic and educational informaton with an ease which greater distances would defeat, and the Medical Center is dedicated to playing its role in this activity in such a way as to merit the growing use of its facilities by its professional colleagues in the State.

"I am a physician and a historian speaking to persons with a vested interest in the diseased. Hence, I am in a position to maintain that medical progress throughout the ages has always been founded upon fresh methods of 'looking at' the morbid reality that is the patient. Hippocrates looked at the patient as a sufferer; Galen viewed him as a function not only of his humors but also of his diseased organs, much as we ourselves do these days; Morgagni related the patient's symptoms to determinate internal organs, which in turn inspired Laennec's work; Addison with his investigations of the suprarenal cortex showed that endocrine lesions were possibly the core of certain diseases; Claude Bernard—that mighty figure who was not a physiologist but Physiology itself in human form—taught us to think physiologically, to base our opinions not only on experimental data and statistics but also on the normalities and abnormalities of the body processes; Virchow brought this notion down to the level of the cell: Pasteur initiated the 'tyranny' of the microbe, which was to last so many years; and Ehrlich and Fleming contributed not only fresh forms of therapy but also fresh approaches to the problem of disease, fresh vantage points from which to track down the sources of disease. But all these men, with the exception of Galen, had one factor in common: They were able *lucidly* and *accurately* to report their observations of the sick human being."

—Dr. Félix Martí-Ibáñez, Director, Department of the History of Medicine, N. Y. Medical College, *Centaur, Essays on the History of Medical Ideas,* N. Y., 1958.

The Program Of Medical Education At Yale

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The program of medical education in Yale University is designed to afford the intelligent, mature and strongly motivated student an opportunity to study the basic medical sciences and clinical medicine at the level of a graduate student and in the atmosphere of a university. The basis of this program is the conviction that the best preparation for either medical practice or teaching and research is an educational experience oriented toward the analysis and solution of medical problems rather than acquisition of factual detail.

It is assumed that the entering student will have a broad background in the liberal arts, including the natural sciences, and be prepared to undertake serious, independent study. It is also assumed that he will benefit from guidance and stimulation rather than compulsion or competition for relative standing in his group. Consequently, he is given more than usual freedom in selection of his course of study and in determining his rate of progress.

The curriculum is organized in two phases. The first phase, which usually occupies two years, is devoted to study of the normal structure and function of the human body, from the cellular level to the total organism, and the deviations which result from the influence of such factors as aging, infections, emotional disturbances, diet, metabolic imbalance and the introduction of chemical agents. The student is thus acquainted with the mechanisms of disease and the principles upon which diagnosis and therapy are based before beginning the study of clinical medicine.

In the second or clinical phase, he is concerned with the care of patients and study of the prevention, diagnosis and treatment of disease. Much of his time is spent in working individually or in small groups, under close supervision of the faculty, in the wards and clinics of the Yale-New Haven Medical Center, affiliated hospitals and the community. On completion of this program, he has a sound basis for further more specialized experience leading to a career in teaching and research, general practice or the practice of a medical or surgical specialty.

Important and unique aspects of this program are opportunities to engage in original research and participate in elective courses. These experiences are essential parts of a curriculum designed to promote the development of critical judgment, habits of self-education and creative drive, as well as the acquisition of established knowledge and skills.

Course examinations are not required but all students are expected to complete the examinations of the National Board of Medical Examiners at the end of the preclinical and clinical years. Thus the student is relieved of the necessity to be constantly preparing for examinations.

The success of this program is dependent upon the availability of a large full-time faculty and the services of many other Connecticut physicians who teach on a voluntary basis. Thus, the tradition of cooperation with the medical community, established 150 years ago, still persists.

The History And Development of the Department Of The History Of Science And Medicine Of Yale University

Elizabeth H. Thomson*

On the 18th of September 1887 there arrived in New Haven the son of a Cleveland physician to enter the freshman class. His name was Harvey Cushing and his coming to Yale was the first in a long chain of events of great moment to the Yale School of Medicine and to medical education in general.

Having visited en route the spacious, tree-shaded campus of Williams College, he was much disappointed to find Yale crowded close to the commerce of the city and no better pleased with his room under the eaves in the lodginghouse still standing at 166 York Street. But four years later he left his alma mater with a deep affection for all it represented and an abiding loyalty which drew him back to New Haven as often as he could manage it in the busy years that followed.

It was with more than ordinary interest, then, that Harvey Cushing considered an invitation in 1932 to join the faculty of the Yale School of Medicine after his retirement as Surgeon-in-Chief of the Peter Bent Brigham Hospital and Professor of Surgery at Harvard Medical School. Renowned the world over for his brilliant contributions to neurology and the surgery of the brain, a specialty he had largely helped to create, he was chafing at the sudden transition from an exceedingly active life to one of leisure. The pull to Yale (where the retirement age was later) was strong and he ultimately accepted the opportunity to return to the university which had always held first place in his heart.

Another close link with New Haven was the presence there of the young man he had long before picked as one who could well receive the mantle he himself had inherited from William Osler, the great humanist-physician of his generation. Cushing met John Fulton in Sir William's library at Oxford while writing Osler's biography and an immediate friendship was fostered by their common love of books and flair for collecting them. But they had other points in common—an all-encompassing dedication to medicine and medical research, indomitable persistence in achieving ends however difficult, a pushing curiosity that kept them ever eager and young in heart, and a generous proportion of the stuff leaders are made of.

Harvey Cushing took up his duties as Professor of Neurology in October of 1933. The following September he went to Montreal to speak at the opening of the Montreal Neurological Institute. He naturally paid a visit to the Osler Library and seeing it there, easily available to students in the Medical School, caused him to think of the future of his own library. Shortly thereafter he wrote to his close friend, Dr. Arnold C. Klebs of Geneva, Switzerland, and proposed that Klebs join him and John Fulton in giving their libraries to Yale as the basis for a department for medico-historical studies. The story of the bringing together of these three great collections was told in a slim volume entitled *The Making of a Library. Extracts from Letters 1934-1941 of Harvey Cushing, Arnold C. Klebs, and John F. Fulton* which was privately printed and presented to John Fulton on 1 November 1959 on the occasion of his sixtieth birthday.

Arnold Klebs had replied to this somewhat startling request that his books be given to an American institution with which he had no connection as follows:

> Now comes your holograph about the destiny of your and John's and my books. . . . You want mainly to play with that idea of an endowed institution of medical booklore . . . . There is the 'felt' reality of inspiring personality, and that has to enter into our plannings, for without it the best collection is but a cemetery. I am heart and soul with your plan if you can insure to it, as well as is in one's power, the continuity of personal interest and influence. If you can give ten more years to it, perhaps with a little help from me and a great deal from John, something lasting might be started.

There was not that much time left for Cushing, but during the next five years the three friends worked over architect's plans for a building to house the collections—one of the few stipulations in the gift.

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In July of 1939 Cushing wrote Klebs:

> . . . For myself, I have left the matter in John's hands and prefer to have him organize something that he would like. . . . . I don't think we can pattern the institute and its organization either on Sarton or Sigerist. We can only hope that the right person or persons will turn up as years pass who will bless us for the source material that we have put in their hands and will get something worthwhile out of it. We haven't yet even decided on what the special collection had best be called. For my own part, I rather fancy imitating you and calling it *Bibliotheca Scientifica et Medica,* to give it a certain humanistic flavour in name as well as purpose.

Three months later Harvey Cushing died, but not before he had been assured that construction of the Library would be pushed forward immediately.

On the 15th of June 1941 the Historical Library, containing as yet only two of the collections, was formally opened. Cushing's princely gift to his alma mater consisted of some 10,000 books and manuscripts. John Fulton's books matched these in number (and have grown at least 20 per cent in the intervening years), being richest in his own field, physiology, and notable for his special collections of Robert Boyle, Joseph Priestley, and Kenelm Digby.

President Seymour wrote at this time to Klebs: "I wish you might have been with us at the opening of the Library which you and Harvey and John hoped for and planned with loving care. It was a great day for the history of science at Yale. . . . You must know how deeply indebted we feel. Through the troubled days to come this Library will serve to preserve scientific and humanistic values which lie at the base of civilization."

The hardships brought by World War II took their toll of Arnold Klebs and he died in 1943. When the hostilities were over, his library *(ca.* 20,000 books and pamphlets) joined those of his friends.

In subsequent years John Fulton, left with the responsibility of bringing to fruition the "institute" which was to insure that the collections would not be just "piously maintained cemeteries of books," brought periodically to the attention of the University authorities the hope Harvey Cushing had expressed in his will: " . . . I would be gratified could said Sterling professorship [his own], with its salary, be transferred as was originally suggested into a professorship of the History of Medicine or of Science (as preferred) . . ." Not quite a decade ago his efforts were rewarded and he was the only one surprised that he himself was offered the chair. President A. Whitney Griswold wrote Dr. Fulton as follows:

> I am delighted that you think so well of the creation of a Sterling Professorship of the History of Medicine, a step so long and so enthusiastically advocated by so many of your friends; and I am particularly pleased that you are to be its first incumbent . . . . As to your hopes of building up a Department of the History of Medicine in connection with the Historical Library, I can only say that, as a historian, I share them with you. But, like so many good things, they must wait upon our raising new funds for this purpose. . . .

The aftermath of a punishing schedule during the war years when Dr. Fulton was commuting between New Haven and Washington now resulted in several periods of indifferent health. This did not prevent him from keeping up an enormous correspondence which carried the name and influence of his department over the world, or from steadily producing books and papers in addition to teaching, but it left him with little energy to raise funds so that he might add a much-needed junior staff member to help with the teaching.

Several students did theses in the history of medicine; for four years running a Yale medical student won the William Osler Medal awarded by the American Association for the History of Medicine for the best essay based on original research, and in 1958 the Ida and Henry Schuman Medical Historical Essay Prize was won by a Yale student. Each year a small but devoted number of students went from the School of Medicine with a deeper appreciation of the cultural background of their profession and a better understanding of its past and the course of its future because John Fulton had shared with them some of his unlimited zest for books and medical history.

A complete breakdown in health in 1957 followed by a sabbatical year brought John Fulton back to his desk with much of his former vigor and enthusiasm and capacity for work. There were two goals foremost in his mind—funds for expansion and the establishment of a Ph.D. program in the history of medicine. Courses in history of science and medicine were available in a number of universities, but few offered graduate degrees in either field per se, Johns Hopkins, the University of Wisconsin, and Harvard being exceptions. However, departments and/or professorships were being organized at Princeton, University of California at Los Angeles and Berkeley, the University of Indiana, and Michigan State University, and he and others in the University, equally interested, were bent on establishing a center at Yale in keeping with its superb facilities. The result of their efforts was the creation of a professorship in the history of science, the establishment of a graduate program leading to the M.A. or Ph.D. degree, and the combining of the teaching of history of science and medicine in one department under Dr. Fulton's chairmanship. This department will offer courses to undergraduates as well as to graduates.

A British scientist, Derek J. de Solla Price (Ph.D. Physics, London; Ph.D. History of Science, Cambridge), Donaldson Fellow in the History of Science at the Institute for Advanced Study at Princeton, was appointed to the new chair. The popularity of a series of five lectures on the relation of science to the humanities given last autumn while he was Visiting Professor of the History of Science is an indication of the vital role he will play in the expanded department. Professor Price has also been appointed Curator of Scientific Instruments, and his special training in restoration will be a great asset in maintaining present collections for teaching purposes and in attracting new gifts.

Leonard Gilchrist Wilson (M.Sc., London; Ph.D. History of Science, Wisconsin) of Huntsville, Ontario, Canada, has been appointed Assistant Professor of the History of Medicine. Dr. Wilson has most recently taught at the University of California and at Cornell and is particularly well qualified in the biological sciences. The Department will also have the advantage of several part-time lecturers. Whitfield J. Bell, Associate Editor of the Papers of Benjamin Franklin, Thomas R. Forbes, Associate Professor of Anatomy, and Francisco Guerra, Research Associate in the History of Medicine, will teach two courses each.

In June of 1959 the Division of General Medical Sciences of the National Institutes of Health, U. S. Public Health Service, awarded a generous five-year training grant to the Department to begin in the academic year 1960-1961. While this will not abrogate the pressing need for permanent endowment, it has contributed to the broadening of the faculty and provided fellowships for a number of graduate students.

With the expansion of activities inherent in the creation of the Department of the History of Science and Medicine, the dream of the three founders of the Historical Library has been realized, and Yale assumes the role of leadership in the training of historians of science and medicine which befits a great university with unparalleled resources. Harvey Cushing, Arnold Klebs, and John Fulton in founding the Library which they envisaged as the laboratory of the Department recognized its potentialities in medical education and foresaw that it could have a formative influence on succeeding generations of students. That these potentialities were being utilized to their utmost would bring them deep satisfaction. The youngest of the three died on 29 May 1960, and although death always comes too early to a man as well beloved as John Fulton, he had fulfilled his trust and had opened the door on unlimited possibilities for the future. Since he had given so much of himself always to enlarging the horizons of young people everywhere, there could be no finer tribute to him than that his Department should continue to flourish and give to an ever-increasing number of students the knowledge of history, the perspective, and the understanding so important in preparing them for the challenge of a new age and for greater comprehension of man himself.

"There is no better way of knowing people than by studying how they amuse themselves. Of the three points in life's triangle—toil, rest and recreation—two are oppressively monotonous: work and sleeping. 'Serious' activities are similar everywhere. Only when a person tries to fill his leisure is the difference between him and others revealed. Our dreams are the personal dowry we bring into this world."

—Martí-Ibáñez, *Centaur*

Opinion Survey And Relative Value Study

Excerpted from the several sources indicated, the following points of view are offered for individual consideration and evaluation by all members of the Society. These excerpts represent an unbiased selection of samples of what doctors and others are currently thinking about across the nation, as reflected in medical publications and in actions of medical legislative bodies. The opinions expressed, even including those voiced by participants in the statewide meeting of the Committee on Third Party Payments, are not necessarily in agreement or disagreement with policies or attitudes of the Connecticut State Medical Society toward these matters.

W.R.R.

From the minutes of the statewide meeting of the Committee on Third Party Payments, June 21, 1960.

"Dr. Max Alpert, Chairman, . . . gave a sweeping summary of the development of the Blue Shield program in Connecticut, touching on the original philosophy and political pressures which had led the House of Delegates of the Connecticut State Medical Society to adopt the plan in 1948. He went on to describe some of the problems which had arisen during the approximately twelve years of CMS, Inc. operation and how Blue Shield philosophy, particularly on the national level, had changed. He made it clear that the "lower income groups" concept with respect to Service Benefits had undergone considerable alteration in many states and that there was some feeling being expressed in Connecticut that a similar attitude should be adopted by members of the Connecticut State Medical Society. He emphasized that the Service Benefits principle was basic to CMS; but pointed out several problems associated with this: Difficulty of deciding whom should be covered: need for flexibility with inflation, etc."

"Dr. Arnold Janzen, Hartford, . . . reviewed the Service Benefits picture, past and present, particularly with respect to actions of the House of Delegates which had been taken during 1958, 1959 and 1960."

"In the general discussion of the Service Benefits principle which followed, it became apparent that there is a wide difference of opinion among physicians practicing in various sections of the state. Several representatives of the smaller counties expressed the opinion that no Service Benefits level was really needed since, in their areas, the CMS payment schedule was considered to be more or less of a "fee schedule" and was used as a guide in determining all physicians' charges, whether patients had insurance or not. Others from urban areas reaffirmed their traditional stand that Service Benefits should be granted only to those CMS members who qualified on the basis of individual, joint or family income. All agreed that the CMS payment schedule has posed, and will continue to pose, the problem of being interpreted as a fee schedule in the public mind, but that this was probably of greater concern to the physicians who practiced in the more heavily populated city areas."

"The question was raised as to whether doctors, in general, felt that they were subsidizing the CMS program in accepting substandard payments for their services to those CMS members who qualify for Service Benefits. A vote was taken on the general subject of whether physicians considered themselves to be making a financial sacrifice in agreeing to accept CMS payments as full compensation under the Service Benefits provision of existing contracts. Fifteen indicated they felt they were, one felt he was not and one voiced no opinion."

"A second vote was taken on the question of whether those present would wish to have the Service Benefits principle continued and included in future CMS contracts. Thirteen said yes and four voted no on this question."

"This . . . led into a consideration of certain inequities in the Preferred Contract (payment schedule), presented by Dr. Charles Polivy, Hartford. The possibility of using a recognized Relative Value Scale (California or Washington, D.C.) to eliminate inequities in Preferred Contract payments was discussed. Attention was directed to the fact that many doctors have only a very limited knowledge of Relative Value concepts and are consequently suspicious—even fearful—of the use of such scales. Reference was also made to the action of the House of Delegates at the special meeting on January 27, 1960 when, in considering this matter as if in a Committee of the Whole, it was voted to delete that portion of one of the Resolutions which would have recommended the use of a Relative Value Scale by CMS in revising existing contracts and developing new contracts."

"There semed to be general agreement that, more recently, a greater understanding of the use of a Relative Value Scale to reflect the proper time-skill-knowledge factors involved in medical care procedures (expressed in units; not in dollars) had come about, and that consideration might be given to the use of a recognized Scale by the Medical Advisory Committee of CMS, Inc. On a show of hands, it was unanimously voted that the Committee on Third Party Payments should recommend to the Council that it recommend to the CMS Board of Directors that a recognized Relative Value Scale be used by the MAC as a guide for correcting and avoiding inequities in the payment schedules of CMS contracts."

From an article titled "Blue Shield Fees—What Are They?" by David Rose, M.D., published in "Massachusetts Physician," June-July, 1960, Volume XVIII, No. 10:

"The basic philosophy (of Blue Shield) must include a fair and equitable return for every service rendered, and be balanced against the costs for those services." . . . "For the subscriber, the philosophy must assure the opportunity to obtain competent medical care from a physician of his choice. . . . It should require that the recipient of this care purchase it at a price commensurate with his ability to pay." . . . "For the physician, it must take into account the costs required to provide these services and then add a plus." . . . "There must be sufficient of this additional return (the plus) to permit a mode of living commensurate with any comparable field." . . . "What is the cost to the Blue Shield subscriber for his benefits and are these benefits in good balance against this cost? Today, more than one third of Blue Shield members pay only a part or none of these costs. In the not too distant future, a majority of Blue Shield members will be covered without (any) cost to themselves. We should remember this when we hear plaintive reminders about how little the public can afford to pay for Blue Shield." . . . "Primarily, Blue Shield survives because the physician continues to subsidize the plan. This is part of the physician's cost or contribution." . . . When any fixed fee is accepted by the physician, he automatically accepts limitation of . . . (his) . . . rights." . . . "(as a result of controls) the physician is forced to give away more of his individual rights and, at the same time, he is making it easier for the public to learn to like and expect medical care at little or no (personal) cost." . . . "There is a public demand for medical care plans, which requests more than was originally conceived by Blue Shield. Should Blue Shield . . . try to meet these demands by continuing expansion into the field of insurance, with the principle that fees be fixed low enough to enable the premiums to be kept low?" . . . "It should not try to compete in a field for which it is not designed and which it can keep only by ever-increasing subsidization. It can offer basic coverage with a fee schedule which permits, together with community rating, a relatively low premium cost. This is what was originally intended and what can be offered (now)."

From the President's Page titled "Ailing Blue Shield" by Walter J. Zimmerman, M.D., "Detroit Medical News," July 25, 1960, Volume LII, No. 12. (Reprinted from the Bulletin of the Oakland County Medical Society, July, 1960):

"Blue Shield hit the headlines again the day this page was written. The $8,500,000 rate increase and Insurance Commissioner Frank Blackford's admonition to the . . . organization to get its house in order within one year were top news in all the mass media." . . . "We go along with the Commissioner's decision to help Blue Shield . . . but to force it to find some other remedy than a never-ending cycle of rate increases for definitive solution of its financial problems." . . . "There are only three ways out of the present predicament: 1) limit the benefits, 2) raise the subscription rates, or 3) reduce payments to doctors." . . . Blue Shield management has elected items 2 and 3 as palliative measures whereas it appears to us that item 1 is the proper area for definitive remedy." "We think it is a matter for thoughtful consideration that Blue Shield's immediate remedy will be a cutback in payments to doctors. No insurance company could do this . . ." . . . "The fault lies with the . . . planners who foolishly offered such a luxurious smorgasbord of medical and surgical benefits for so modest a check." . . . "We think the only permanent solution to the Blue Shield predicament is to get back to its original purpose: to provide in-patient hospital medical and surgical care on a service basis for middle and low income families only. Don't try to bring the entire population under the cover of Service Benefits."

From a letter to Mr. L. Gordon Goodrich, Executive Vice-President, Michigan Medical Service from Mr. Frank Blackford, Commissioner of Insurance, State of Michigan, dated June 15, 1960, published in "Detroit Medical News," July 25, 1960, Vol. LII, No. 12.

"The Department is aware that many of our citizens hold to the opinion that prepayment plans have been abused in such areas as discriminatory pricing policy, payments by Blue Shield for services not rendered and excessive use of diagnostic services. We are not in a position to determine the extent and relative importance that should be assessed to these factors, but careful review of these, as well as other areas, should be undertaken and procedures established to prevent misuse or abuse." . . . ". . . it is apparent that we shall experience for some time to come an increasing demand for medical care and the use of medical care facilities. It is imperative that we provide to our citizens the assurance that health care will be made available to them, when they need it and at the lowest possible cost. Because approximately one-half of Michigan's population participates in the Blue Shield Plan, it is important that you (the directorship) work with those persons most intimately concerned with the services your plan provides. Any program developed should be through cooperative efforts of the Michigan Medical Service and other groups including the medical profession, trade union organizations, employer groups and representatives of the general public. I am sure you will find them responsive to the obligation to work together in making the Blue Shield Plan operate effectively and with such economies as may be possible."

From an article titled "A Boost for Blue Shield" by Iatros, "Medical News," July 6, 1960:

"The refurbishing (of Blue Shield's competitive mettle) was accomplished by a Council on Medical Services' (AMA) report, accepted by the AMA House of Delegates (in Miami, June, 1960)." . . . "Dr. Donald H. Stubbs, chairman of the board of the National Association of Blue Shield Plans, said: 'We wanted the AMA to recognize that because physicians are actively involved in the management of Blue Shield, it is closer to organized medicine. Organized medicine has much more responsibility to make Blue Shield work than to make commercial insurance work'." . . . "John Castellucci, executive vice-president of the Blue Shield association, said: 'They class us in the insurance field just as if we were another company. I say we're not'." . . . "Mr. Castellucci was particularly pleased that the reference committee, before accepting the report, knocked out the phrase 'in the low and middle income ranges' which would have limited the persons eligible for assistance toward meeting health care costs." . . . "What will be accomplished by the report? 'It puts us in a good position to be more flexible in expanding our benefit structures,' Mr. Castellucci said." . . . "As Dr. Stubbs explained it: 'Our first job is to strengthen the weak spots in Blue Shield by obtaining more uniformity in scope of benefits; to become truly national. This will mean more national business contracts . . .' . . . 'When we are capable of doing a national job, this will pave the way for increased benefits—and stimulate plans for experimentation.' . . . 'We are trying to define the Blue Shield concept in far greater detail than the AMA has.' . . . 'Then we will try to see the extent to which various plans meet it.' . . . "With the expected support of the AMA, he added, 'we can then lay it on the line to the local plans. This is what has to be done'." . . . "There is no doubt that Blue Shield will be able to compete more effectively in the market place with commercial insurance by improving its chief weapon—service benefits."

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Editorials

Your Invitation to the Medical School Sesquicentennial

Every member of the Connecticut State Medical Society will receive an invitation to attend the Sesquicentennial Celebration of the Yale University School of Medicine to be held October 28 and 29, 1960. This is an important event in the annals of Connecticut Medicine and as Dr. Herbert Thoms points out in this issue our Society was a vital factor in the founding of the School and its continuing life for many years. All physicians residing in Connecticut are invited to attend which includes house officers not members of the Society. In order to make proper seating arrangements the Sesquicentennial Committee requests that the number of seats desired by those planning to attend be designated on the slip enclosed with the invitation. Doing so is not a commitment but a courtesy.

Sesquicentennial of The Yale School of Medicine

"The cultivation of useful learning can only be effectually promoted under those who are patrons of science, and under the authority and direction of men incorporated for the improvement of literature."

A Discourse Upon The Institution Of Medical Schools In America.

John Morgan, M.D., Philadelphia, 1765.

These words from the founder of the first regularly established institution of medical learning in this country, the medical school of the College of Philadelphia, seem particularly appropriate today as we look back to the founding of the Yale School of Medicine in 1810. After the establishment of the first school in Philadelphia, King's College in New York City added a medical division to its faculty in 1768 (and conferred the first American medical degree in 1770). Harvard Medical School was established by Dr. John Warren in 1782, Dartmouth in 1797, and Transylvania University in Lexington, Kentucky in 1799. Thus Yale became the sixth school to be established, although Yale College had conferred the first American medical diploma, an honorary medical degree to Daniel Turner in 1723. Every one of these schools except that at Lexington had been founded in connection with a college already well-established in the study of "the improvement of literature."

Medical education saw its earliest beginnings in this country when Lambert Wilson arrived in the Massachusetts Bay Colony to act as surgeon to the settlers and Indians and to train young men of the colony in medicine. Giles Firmin came from England as an apothecary in 1632, studied medicine and later taught anatomy from a skeleton. The first recorded autopsy in the colonies was performed in 1639. The Massachusetts General Court agreed in 1647 to provide a cadaver of a "malefactor" once in four years "to anatomize (sic)."

For the next hundred years students of medicine went to Europe to take their degrees or apprenticed themselves to individual preceptors in this country in order to qualify for medical licensure. Morgan was highly critical of this system which, as he said gave a man "a contracted view of medicine," and leads him "to believe that, from the few maxims he has adopted, he has within himself all the principles of medical knowledge, and that he has exhausted all the resources of art. This is a notion subversive of all improvement." In 1775 there were only about 3,500 practitioners of medicine in America of whom not more than 400 held recognized medical degrees.

The fee for the first course of 60 lectures by Dr. Shippen at Philadelphia in 1765-66 was $24.00. This included anatomy, physiology, pathology, surgery, bandaging, midwifery and clinical therapeutics. The course in Materia Medica (including botany and chemistry) was $16.00 and there was a fee of one dollar for the use of the medical library. Two years later, Morgan wrote to a friend that he had "20 pupils this year at about five guineas each."

Some idea of medical studies 70 years later can be obtained from some questions asked of students at the University of London Medical School by Dr. John Elliotson, professor of medicine. "What are the various causes of mortification? What are the phenomena of diabetes mellitus? What are the symptoms, history and treatment of acute and chronic pleurisy?" Some of these questions would not be entirely outmoded today, but some of the concepts being currently taught today would be more foreign to the medical minds of that time than their questions would have seemed to Hippocrates. Thus has the body of technical knowledge advanced and expanded in the last one hundred years.

Today, the trend in medical education seems to be reverting from the concept of providing purely a technical training to that principle of the integration of learning in the humanities with scientific teaching that John Morgan had in mind. We now are witnessing in some schools the complete integration of academic with medical studies. There has never been a time when experimentation with the medical curriculum has been so active and widespread. Most certainly, when the Yale School of Medicine reaches its bicentennial, the changes in the teaching of medicine will be much greater than we can ever imagine now.

A. J. R.

Charity or Productivity

The Forand Bill has brought into sharp focus the problem of how to provide adequate medical care for the so-called aged, those people over the age of 65.

To counter the Forand Bill, the present administration has made certain proposals and the medical profession still others. Organized labor, of course, has consistently approved the Forand measure.

All of us wish all Americans to be able to afford and to receive adequate medical care. The most interesting question in regard to oldsters is why they have to be so peculiarly provided for in the first place.

The answer is rather obvious. These citizens have been made, by law, by union control, and also by virtue of certain management practices, a dependent group. Thus, since they are prohibited from work, they must be provided for.

It would be ideal of course, if all or most of the aged had adequate savings. Some do. Unfortunately, the illnesses of the aged are often chronic and recurrent and consume money quite avidly. Very naturally, older patients panic at the rapid dissolution of life time savings which cannot be replaced.

Dr. Joseph Still* has written a very stimulating article dealing with the problems of the aged, in the April 11th issue of *Medical Economics*. He feels, as does this writer, that the only solution to this problem is to permit oldsters who wish to work to do so. To spur this desire still further, certain incentives could be furnished to those remaining in the work force.

There is much to commend this viewpoint. Fifteen million people are unemployed in this country who are not legally so considered. They have limited purchasing power and can only be a drain on the economy. They constitute a force for further inflation and form a group receptive to often quite bizarre ideas.

Organized medicine should plead for further employment of this group in the interest of both health and economy. In the present age of abundance there is little justification for the existence of a large marginal, dependent group, particularly when many people in this category have enjoyed a lifetime of creative and purposeful activity. It seems cruel to automatically suppress these talents and abilities simply because a particular birthday has been reached.

If we are to have a really expanding economy and a really healthy nation, means must be found to permit those who wish to contribute to their country's progress and also maintain their own self respect to do so.

I. S. E.

Endowment for Medical Research

"Truth is the aim of all research."

—Theodore Billroth

It is a well known fact that much of the newer knowledge concerning medicine has resulted from research, and that the greater part of this has been carried on in the medical departments of universities. In a recent address Wendel M. Stanley has pointed out that compared with the sums spent for defense and its various mechanisms the money available for medical research is trivial in amount. As he notes, the United States spends about 50 billion dollars a year on defense, and he has no desire to reduce this, While the amount available for medical research in schools and universities amounts to about eight million dollars a year.* Professor Stanley points to the influenza pandemic of 1918-19, in which the United States lost about 400,000 people, as an example of the need for more medical research. He realizes, however, that there is also a need for more trained investigators and estimates the present number of senior medical researchers in the basic medical sciences at about two thousand. He therefore believes that the increase in endowment funds should be a gradual one in order to allow time for the training of more investigators. Needless to say they should be carefully selected, especially if one agrees with J. H. Newman that to discover and to teach are distinct functions and also distinct gifts which are not *commonly* found united in the same person.

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* Director of the Bucks County Department of Health, Doylestown, Pennsylvania.

* See Editorial, the Gold in Useless Knowledge. Science, 1956, Vol. 123, No. 3192.

G. B.

Informing the Public on Medical Matters

"An ounce of Prevention is worth a Pound of Cure."
English Proverb.

Anyone who, like the writer, got his medical education more than a couple of generations ago, must be aware of the tremendous strides which the science and art of medicine have taken since that period. The *pace* of medical discovery during this century has become so rapid that it is difficult for busy physicians to keep up with it and this despite various plans to bring groups of physicians together to alert them to the new and the important. It is common knowledge that many once formidable diseases have been practically wiped out and that a new group has come to the fore as potential killers. It has long been obvious that the education of the public must be part of the medical program for without this the prevention of disease is handicapped. The writer would be the last to aver that no progress has been made in this field for many daily newspapers publish syndicated medical articles written in simple language such as those of Dr. Walter C. Alvarez; medical societies appoint specified members who answer queries in the public press; weekly and monthly magazines have medical sections, and radio and television present medical problems. As a rule, this material is pertinent and sound though an occasional faddist gains access to the group. These remarks have been prompted because of noting that the *New York State Journal of Medicine** has recently initiated a series of "Health Forums" for the public which, if they are as clearly expressed as the one noted, will be of great educational value. The main difficulty in making such a program effective is to get the general public, especially those who think they are in good health, to read the material. Every effort must be made to get such articles, sometimes in the form of reprints, into the hands of the people.

G. B.

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* Dr. Grover Power, N. Y. State Jour. Med., 1958, 58: 3, p. 404.

Sabin Urges Nation to Seek End of Polio by Next Summer

Dr. Albert B. Sabin, developer of the live poliovirus vaccine that bears his name, today urged that an attempt be made to eliminate polio in the United States before next summer.

In an editorial in the current Archives of Internal Medicine, published by the American Medical Association, Dr. Sabin said:

"The laboratory and field experiences with the oral poliovirus vaccine strains that I selected are now available for decisive judgment, and two American pharmaceutical companies expect to have the required number of successive lots of vaccine produced under the safeguards specified by the National Institutes of Health by autumn of 1960.

"The question now remains whether the health authorities and physicians of the United States are ready to take the necessary steps for an attempted elimination of poliomyelitis from the country before the summer of 1961 or whether the country will continue to pay the high current price for only partial prevention of the paralytic disease?"

The Public Health Service has delayed licensing the Sabin vaccine pending "evidence of safety and lack of significant reversion to virulence," according to a statement by Surgeon General Leroy Burney last December.

Since the Sabin vaccine is produced from live virus strains that are weakened until harmless, it was feared that the viruses might regain their power to cause the disease after the vaccine is administered.

In this connection, Dr. Sabin cited field tests in Estonia and Lithuania as "the best obtainable field experience not only on the safety of the vaccines used but also on their effectiveness in the elimination of paralytic poliomyelitis."

In these field trials, he said, vaccination of 50 to 60 per cent of the most susceptible age groups was completed before the summer of 1959.

The naturally occurring polioviruses in the unvaccinated group as well as those emanating from the hundreds of thousands of susceptible persons infected by contact with the vaccinated group had an opportunity to spread during the summer period when there has always been an increase in the number of polio cases, he said.

A thorough followup of the results of the vaccination program showed an absence of the summer increase as well as an "unprecedented reduction in the incidence of poliomyelitis in the entire population" of the two republics, he said.

Urologist's "Know-How" Aids Surgical Patients

A conscientious physician came to the aid today of the thousands of patients who suffer from the common and distressing condition of urinary retention after surgery.

He is Dr. Myron H. Nourse, a urologist, from Indianapolis.

Dr. Nourse studied the problem, backed up his own findings with the results of a questionnaire which he personally mailed to 151 members of the American Urological Association, and concluded it was time "to organize our thoughts on this subject."

Writing in the current Journal of the American Medical Association, Dr. Nourse said that the problems associated with this condition, which so many surgical patients dread, exist largely "because of increased numbers of patients hospitalized and decreased numbers of trained professional help."

Patients unable to void after surgery, in spite of a full bladder, normal kidney function, and the absence of any organic obstruction, usually undergo catheterization. In this procedure a hollow rubber tube is used to drain urine from the bladder.

"Is this procedure really necessary?" Dr. Nourse asked. He said that while the answer must come only from the doctor in charge, his associate, or his assistant, consideration had to be given to many other complex factors, including the type of patient.

He urged doctors not to write out catheterization orders too freely, but to give more realistic personal attention and supervision to the patient.

"Leaving routine postoperative catheterization orders to the interpretation and discretion of the nursing service is a practice to be discouraged," Dr. Nourse said in the Journal article.

"Changing trends exist in hospitals today with regard to patient care," he said. "Personal attention to patients' simple wants and needs is often lacking. It is thought to be somewhat 'old-fashioned' to request that a considerate attitude be displayed. For example, many patients could urinate spontaneously after operation if the urinal were present and within reach. Adequate personal preoperative and postoperative instruction to the patient lends confidence and mental tranquility of a degree far superior to that affected by tranquilizing agents."

Dr. Nourse said that the procedure of passing a rubber catheter is not difficult in experienced hands, but the operation should not be left routinely to orderlies and nurses.

"Real bedside nursing has also become 'old-fashioned' and is for practical purposes a 'lost art,' " he said, adding: "Many tasks, including catheterization, are relegated to nonprofessional nursing help and the new graduate soon finds she has much to learn before she can become a good nurse."

He said that catheterization is not without danger and that despite the most careful technique, infection of the bladder may follow. He cited this as another reason why catheterization should be in experienced hands.

Dr. Nourse said that preoperative and postoperative discussion between doctor and patient was, in his opinion, the best way to help the patient with this distressing problem. Such discussions and suggestions with 2,000 patients, he said, lowered the percentage of those who had to be catheterized from 18.3 to 1.7.

Iproniazid Helps Alcoholics; Causes No Side Effects

The successful treatment of alcoholic depression with iproniazid phosphate (Marsilid), a drug with a tendency to irritate the liver, was reported in the Journal of the American Medical Association.

Dr. Julius C. Travis of the Adult Guidance Center, San Francisco Department of Public Health, reported on the use of the drug in 20 alcoholics in a recent issue of the Journal.

Because of its effect on the liver, Dr. Travis said, "the drug was, and apparently still is, considered dangerous for the alcoholic patient, who already may be a victim of liver disease."

However, he prescribed the drug in cases where the patient was depressed to the state of possible suicide and had no history or current evidence of liver disease.

Among the 20, all outpatients, six showed excellent results, six good results, four fair results, and four poor results.

No side effects were observed. There were no cases of hepatitis or liver involvement. There were no suicides and no patients were sent to a hospital.

Soot Found Related to Lung Disease

"The effects on public health of unsavory gases and solids in the air is of first importance. It seems obvious, in some places, that the effects have been detrimental. However, as yet scientific proof of the specific hazards to human health is fragmentary, making it difficult to arrive at valid conclusions. Many studies have been published; many are under way.

"Thus a good start has been made. We may be surprised at what can be done if everybody, managers of buildings, home owners, industries, research workers, will do their part in keeping toxic material out of the air we breathe."

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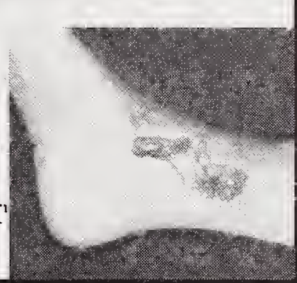
for routine use in injury and infection
...new simple buccal route

Varidase Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption, patient should delay swallowing saliva. Dosage: One tablet four times daily usually for five days. When infection is present, Varidase Buccal Tablets should be given in conjunction with Achromycin® V Tetracycline with Citric Acid. Each Varidase Buccal Tablet contains: 10,000 Units Streptokinase and 2,500 Units Streptodornase. Supplied: boxes of 24 and 100 tablets.

1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission

Lederle LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York

FORCE INJURY
severe bruises
. . . swelling
. . . cleared
by fifth day[2]



VARICOSE ULCER
15 years duration
. . . resolved with
VARIDASE[1]

INFLAMMATORY DERMATOSIS
rapidly spreading
rhus dermatitis
healed within
a week[1]

INFECTED LACERATION
marked reversal
in 3 days . . .
returned
to school . . .
closure advanced[1]

THROMBOPHLEBITIS
back on his feet
in a week after
recurrent episode[1]

REFRACTORY CELLULITIS
normal routine
resumed after 4 days
of VARIDASE[1]

THE PRESIDENT'S PAGE

Next month it will be my privilege to convey greetings from our Society at the convocation celebrating the sesquicentennial of the Yale School of Medicine. I hope that all members who can will attend the convocation on October 28 and 29 to augment our Society's part in the celebration.

Our Society claims common ancestry and, during the early years, intimate family ties with the School. The Society was officially just 18 years old when in 1810 the Connecticut Legislature empowered the President and Fellows of the Connecticut Medical Society to join with the President and Fellows of Yale College in the formation of the Medical Institution of Yale College.

Beginning at least 30 years prior to 1810, officials of Yale College and physicians of Connecticut worked on plans for a medical school and plans for a state medical society both of which would serve as means to extend medical knowledge and elevate the standards of medical education. After several years during which bills to authorize a state medical society were shelved, the Legislature in 1792 granted a charter to the Connecticut Medical Society. The Society was empowered to appoint examining committees, confer degrees and issue licenses.

Studies and discussions on the need for the establishment of a medical school continued for the next 15 years. Then in 1807, President Timothy Dwight of Yale, who had carried on the planning for a medical school begun by his predecessor, President Stiles, sought the cooperation of the Society in an intensified effort to establish the school. On October 28, 1810 the original charter of the Medical Institution of Yale College was granted jointly to the College and the Society. Articles of union between the College and the Society continued in force until they were set aside by mutual agreement some 75 years later.

During the first half-century of medical education at Yale, our Society played a major role in the selection of the faculty and of candidates for medical degrees. For more than 50 years, each component county association had the privilege of naming a student from the county to attend the School gratuitously. In turn, the Society and the people of Connecticut were enriched by the high quality of physicians which Yale produced.

The general educational program at Yale provided a cultural environment which stimulated the medical student to an awareness of the arts and social sciences to a far greater degree than was possible under the practical apprenticeship approach. It was early recognized that the practitioner of medicine, to excel in the art of medicine, needed a broader educational background than one based primarily on the development of strictly vocational tools. To such an environment, it was inevitable that teachers and students of outstanding intellectual capacity and dedication would be drawn. It was also inevitable, perhaps, that the Yale student and graduate would become somewhat more "university oriented" than, for example, "hospital oriented" or "medical society oriented." Yale has produced a relatively large number of full-time teachers for American medical schools.

The Yale University School of Medicine has become one of the greatest medical schools in the world. In the evolution of its teaching program it has developed many features which have been copied or adapted by other medical schools. The current Dean, Dr. Vernon W. Lippard, has said the essential features of the Yale plan are: "the faculty is concerned with guiding and stimulating a group of intelligent young men and women rather than in drilling and examining them" and "teachers and their attitudes are more important than curriculum structure and methods."

In Dean Lippard's simple statement of the basic philosophy of Yale's current medical education program we can find much to applaud. Somewhat wistfully, however, we note that there are many intelligent young men and women in Connecticut who are capable of being guided and stimulated by teachers such as those at Yale but who cannot find room at Yale or in other medical schools.

Only a relatively small percentage of physicians practicing in Connecticut today are graduates of the Yale University School of Medicine. Of more than 1,000 applicants for admission to the first year class, the School enrolls only about 80. Only about one in every six enrollees will come from Connecticut. The School does have teaching responsibilities for more than 200 interns and residents, but these physicians also are drawn from a wide geographic area.

Connecticut is losing ground in the production of physicians from its own citizens. Its ratio of medical students per state population has dropped below the median for the country as a whole. I do not suggest that Yale give priority to Connecticut applicants. Just to keep apace of the number of physicians annually lost to Connecticut by death, retirement and emigration would take a number equal to that of the entire class graduating from Yale each year! I do suggest, however, that, while we of the Connecticut State Medical Society may take pride in the part our predecessors played in the establishment of the Medical Institution of Yale College 150 years ago, we must not rest on those laurels. Our predecessors saw a need and did something about it. We face a need for more medical educational facilities in Connecticut right now and we must take vigorous steps to meet that need.

Studies and discussions about a second medical school, which have gone on for years, remind us of those in 1780-1810 which preceded the establishment of the School at Yale. The President of the University of Connecticut has shown the same vigorous interest that Presidents Stiles and Dwight of Yale demonstrated 150 years before him. Tentative but detailed plans have been set down. Sites and facilities have been carefully studied. Soon the Society may expect the call to cooperate in an intensified effort to establish a second medical school—a call reminiscent of that made by President Dwight of Yale in 1807. There is one big difference: today we have the experience and skill available at Connecticut's first medical school to guarantee the success of the second.

Venerable but vigorous Yale, with the wisdom of your maturity of course you understand that we honor you not less but more in seeking to create another school in your image. As Professor Thoms has put it, you are indeed "a splendid monument to the enterprising spirit of (your) founders." From your example, the men and women of Connecticut medicine will draw the courage and strength to meet today's need for additional facilities in our state. We are proud of you. We are grateful to you. We extend to you on your 150th birthday anniversary our very best wishes for your continued success in extending medical knowledge and elevating the standards of medical education.

JOHN N. GALLIVAN, M.D.

FROM THE GENERAL MANAGER'S OFFICE

William R. Richards, M.D., *General Manager*
160 St. Ronan Street, New Haven, Conn.
Telephone UN 5-0587

James G. Burch
Director of Public Relations

Josephine P. Lindquist
Assistant to General Manager

THE SOCIETY'S OPINION SURVEY

On April 27, 1959, the House of Delegates of the Connecticut State Medical Society voted to direct the Council to conduct an opinion survey among the members of the Society. It was declared at that time that the survey was to be made for the purpose of "establishing positive medical policies designed to aid all Third Party agencies in the development of fair and equitable plans which will provide prepayment for physicians' services."

Implementing this directive of the House, the Council promptly appointed a subcommittee of its members which, working with the Society's Committee on Third Party Payments, spent a great deal of time during the next eight months in carefully drafting a suitable questionnaire by which to make this study of professional opinion. Upon completion of its assigned task, and upon further direction of the House of Delegates in December, 1959, the group turned over the fruits of its labors to the consulting firm of Rogers, Slade and Hill of New York City for processing.

Working in cooperation with the General Manager's office, the original questionnaire has been reworded, revised and streamlined by Rogers, Slade and Hill in such a way as to assure that the Opinion Survey will be conducted in a properly unbiased and professional manner, and that the results of the analysis will be valid. However, the meaning of the subcommittee's original text remains unaltered and the final draft was approved by the subcommittee on June 23, 1960.

Immediately after Labor Day, every member of the Society should have received an official questionnaire booklet and, as stated in the Foreword, each is urged to "take advantage of the opportunity to participate in this Opinion Survey and . . . give thoughtful and mature responses to the questions. . . ."

The mechanics of this general mailing have been rather complicated because it is the wish of the Opinion Survey Subcommittee to assure the anonymity of each and every respondent. To carry out this important part of the project was the responsibility of the office staff at St. Ronan Street.

The *really big* problem, however, will be to assure the completion and return of the questionnaires for analysis and study. This is the personal responsibility of each member of the Society who is eligible to participate. A return of 40% or so will establish the validity of the results but a return of closer to 100% will do much more than firm up statistics. Wholehearted participation by the entire membership will give lie to the oft-voiced contentions that doctors are not aware of the rapidly changing socio-economic patterns in America today and, even worse, that they are not interested in them. Events in Connecticut during the past several years have indicated that such charges are untrue. This is our chance to prove it!

COUNCIL MEETING

Wednesday, August 10, 1960

A meeting of the Council was called to order by the Chairman, Dr. Gilman at 2:40 P.M. on Wednesday, August 10, 1960. Present in addition to the Chairman were Drs. Gallivan, Goldberg, Hess, O'Connor, Caplan, Abbot, Weise, Bradley, Cornwell, Buckley, Rentsch, Murray, Gorman, Pollock, Grant, Gevalt, Davis, and Phillips. Also present: William R. Richards, General Manager. Absent were Doctors: Feeney, Cullen, Gardner, Scully, Katzin, Schiavetti, Purnell and Chartier.

MINUTES OF MEETING, JUNE 23, 1960. The printed minutes of the Council meeting of June 23, 1960 were approved without correction.

COMMITTEE ON MATERNAL MORTALITY AND MORBIDITY. It was VOTED to accept the resignation of William K. Bannister, Hartford, as a member of this committee. It was further VOTED to appoint Charles M. Barbour, Hartford, to replace Dr. Bannister as a member.

COMMITTEE TO STUDY PERINATAL MORBIDITY AND MORTALITY. It was VOTED to accept the resignation of William K. Bannister, Hartford, as a member of this committee. At the request of the committee chairman, appointment of a replacement for Dr. Bannister was deferred.

COMMITTEE ON PUBLIC HEALTH. It was VOTED to accept the resignation of Robert H. Green, New Haven, as a member of this committee.

ADVISORY COMMITTEE TO THE MEDICARE PROGRAM. It was VOTED to appoint Marjorie A. Purnell, Rockville, to membership on this committee to replace R. Bruce Thayer, Jr., Hazardville, resigned.

COMMITTEE ON PUBLIC HEALTH. On the recommendation of the committee chairman, it was VOTED to appoint Joseph L. Hetzel, Waterbury, to membership on this committee.

MEDICAL ADVISORY COMMITTEE TO THE COMMISSIONERS OF WELFARE AND OF FINANCE AND CONTROL. It was VOTED to accept the resignation of Edwin R. Connors, Bridgeport, as chairman of this committee. Dr. Connors has recently been appointed Medical Director of the State Department of Welfare. It was further VOTED *not* to accept Dr. Connor's resignation as a committee member.

It was then VOTED to appoint Edwin F. Trautman, Trumbull, to replace Dr. Connors as chairman of the Advisory Committee to the Commissioners of Welfare and of Finance and Control.

COMMITTEE ON MEDICAL ECONOMICS AND INSURANCE. At the request of its chairman, it was VOTED to appropriate an additional $100 to supplement the 1960 budget of this committee.

COMMITTEE ON INDUSTRIAL HEALTH. It was VOTED to authorize J. Howard Johnston, West Hartford, chairman of this committee, to attend the Joint Conference of Chairmen of State Medical Society Committees on Industrial Health in Charlotte, North Carolina, October 10-12, 1960. It was further VOTED to reimburse Dr. Johnston in the amount of up to $174.00 for expenses incurred in attending this conference.

EIGHTH NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS. It was VOTED to refer the announcement from the AMA in regard to this conference to the Committee on Public Health for information and possible recommendation as to sending a representative of the Society to the conference.

DELEGATE TO MAINE MEDICAL ASSOCIATION. As information, a letter was received from Sydney Luria of Bridgeport, briefly reporting on his recent attendance as a delegate to the Convention of the Maine Medical Association. Dr. Luria stated that "both scientifically and socially, the meeting was a great success."

CONFERENCE COMMITTEE WITH THE STATE BAR ASSOCIATION. At the request of Peter V. Dingman, Waterbury, chairman, it was VOTED to authorize a project proposing a joint printing and distributing of "Principles for Cooperation," copies to be sent to all members of the Connecticut State Medical Society and all members of the Connecticut State Bar Association. It was further VOTED to authorize the expenditure of not more than $360.00 to cover the Society's proportionate share of this joint venture.

UNITED STATES CIVIL DEFENSE COUNCIL. John Shoukimas, Hartford, a representative of the Society to the Health Service Division of the Survival Plan of the State Department of Health, informed the Council of his desire to attend a meeting of the United States Civil Defense Council in Minneapolis, September, 1960. While expressing a feeling that it would be most valuable for Dr. Shoukimas and other representatives of the Society who serve with the State Health Department in a civil defense capacity to attend meetings of this kind, possibly at the expense of the Health Department, it was VOTED to inform Dr. Shoukimas that the Council did not have the authority to appropriate funds for the purpose he requested. It was pointed out that such allocation of funds could only apply to regular committees of the Society.

RE CREIGHTON BARKER, DECEASED. The following letter from Mrs. Juliette B. Barker was read: "I have received your letter telling me of the action of the Council in regard to the recommendation of the Pension Committee. Please express my thanks and appreciation for this most generous gift from the Medical Society. If I can at any time be of service to the Society or the Auxiliary, I will be most glad to do it. With best wishes, Sincerely,"

It was VOTED to direct the president of the Society to present to Mrs. Barker a framed scroll in recognition of Dr. Barker's services to the Society, such presentation to be made at a time and place of mutual convenience and suitability. It was suggested that Dr. Gallivan might invite the president of the Woman's Auxiliary to accompany him on this occasion, if he so desired.

SEMI-ANNUAL MEETING OF THE HOUSE OF DELEGATES —1960. At the invitation of Drs. Cornwell and Pollock, it was VOTED to hold the semi-annual meeting of the House at Hartford, either on the 6th or 13th of December, 1960. Dr. Cornwell will inform the General Manager of the exact place and date of the meeting in the very near future.

ANNUAL MEETING OF HOUSE OF DELEGATES—1961. It was VOTED to hold the annual meeting of the House of Delegates at Hamden High School, Hamden, Connecticut, on April 25, 1961. The Chairman ruled that, in accordance with the action taken by the Council on June 23, 1960 (which calls for proper rotation of the semi-annual and annual meetings of the House of Delegates among the major county areas), "proper rotation" began as of this meeting. The ruling of the chair was challenged but was upheld by a vote of 11-4.

ANNUAL MEETING OF SOCIETY—1961. It was VOTED to hold the annual scientific meeting of the Society at the Hamden High School, Hamden, Connecticut, on April 26-27, 1961 and it was further VOTED to request the New Haven County Medical Association to act as host for the meeting and to again appoint a Committee on Local Arrangements from among its members.

It was understood that in planning for future annual meetings, it will be necessary to decide whether it is either desirable or practical to have the House of Delegates meet at some place other than that at which the scientific sessions are held, particularly if it is planned to conduct the two meetings on consecutive days.

COMMITTEE TO STUDY ANESTHETIC MORBIDITY AND MORTALITY. On the recommendation of David M. Little, Jr., Hartford, a member of this committee, it was VOTED to disband the committee. Dr. Little suggested that a group of anesthetists is actively and regularly conducting such studies under the auspices of the Connecticut State Society of Anesthesiologists, and that periodic reports on this matter are published in CONNECTICUT MEDICINE.

COMMITTEE ON STATE LEGISLATION. Having discussed the subject of "generic name" drugs at a recent meeting, the committee presented to the Council information regarding this matter which had appeared in the May issue of *Connecticut Pharmacist* (reprinted in CONNECTICUT MEDICINE, July, 1960). The editorial excerpts conclude "There is no doubt . . . that medical leaders have a responsibility to join with us (the pharmacists)." "To date, their performance has been most disappointing."

In the ensuing discussion, the opinion was expressed that it is not only very difficult for most physicians to resort to prescribing drugs by their generic name but also may be well nigh impossible. There was also general agreement that physicians certainly had a responsibility toward pharmacists and others in the health care field and should work closely with them in taking actions which are in the public interest.

It was therefore VOTED to ask the Joint Interprofessional Relations Committee of the Society and the Connecticut Pharmaceutical Association to present to the Council for approval recommendations regarding the prescribing and dispensing of "generic name" drugs.

CONNECTICUT MEDICAL SERVICE, INC.

(A) Report of the CMS-CSMS Liaison Committee meeting of July 12, 1960.

Each member of the Council had been provided with a "package" of mimeographed documents which included a copy of the minutes of the CMS-CSMS Liaison meeting of July 12, 1960, a copy of a letter from Dr. Gilman to Dr. Middlebrook, president of CMS, Inc., pertaining to the report of Dr. Louis C. Backhus considered by the Council on June 23, 1960, and a copy of the opinion which Dr. Gallivan had presented at the July 12th Liaison meeting with respect to the responsibilities of the CMS Medical Advisory Committee in developing contracts.

This material cannot be reproduced in full in these minutes. The essential points referred to were as follows:

(1) That on June 23rd, Dr. Backhus had reported to the Council his opinion that the Medical Advisory Committee was being subjected to certain pressures which, if yielded to, could put the MAC in the position of developing contracts of which many of its members did not approve and that he (Dr. Backhus) and other MAC members found it most difficult to participate in the development of contracts under these conditions.

(2) That this whole matter had been discussed at the CMS-CSMS Liaison meeting of July 12th and, after hearing Dr. Gallivan's opinion and that of others relative to the responsibilities of the Medical Advisory Committee as spelled out in the CMS Bylaws, the Liaison group had adopted the following motion by a divided vote of 7-3.

"WHEREAS: There is an existing difference of opinion among various members of the CMS-CSMS Liaison Committee regarding the responsibility of the CMS Medical Advisory Committee in the development of new contracts, therefore it is

MOVED: That the CMS-CSMS Liaison Committee go on record as favoring the interpretation that the CMS Medical Advisory Committee does *not* have the responsibility of developing new contracts but shall act in an advisory capacity in the development of new contracts."

It was made clear that this motion was merely an expression of opinion by members of the Liaison Committee, and probably would not clarify or resolve the problems referred to by Dr. Backhus unless formally agreed to and adopted by the full Board of Directors of CMS. In the latter event, it was felt by many members of the Council, the Board's June directive to the Medical Advisory Committee with respect to developing new contracts might be withdrawn and the MAC would thereby be relieved of both pressure and responsibility in this matter.

The Council elected to neither confirm nor dispute the opinion expressed by the liaison body in the motion of July 12th, but it was VOTED to request Dr. Gallivan to draft a suitable motion based on the Liaison Committee's opinion and the discussions of the Council thereon for submission to the Council at its next meeting in September.

(3) That the CMS component of the liaison group had reported on an April conference of its representatives with the Insurance Commissioner and his staff and that the Commissioner's office had requested the Board to provide information relative to the present scope of service benefits production under existing contracts and any plans the Board might have under consideration for increasing the scope of service coverage.

The Board was reported to have provided the Commissioner with all information requested and had heard nothing further in the matter as of July 12th, the date of the liaison meeting. However, it was said that a spokesman for the Commissioner had expressed concern about the reported falling off of service benefits production under the Preferred Contract, and had explained inquiries into the CMS operation on the basis of that section of the applicable General Statutes which refers to "the public interest."

(B) A similar dossier of correspondence between Dr. Gallivan, the State Insurance Commissioner and John H. Woodruff, Hartford, was presented to each Council member. All of this correspondence had to do with matters pertaining to the payment for physicians' services by Blue Cross rather than Blue Shield, when such services are provided to hospitalized patients. The point at issue is that a hospital service corporation should *not* make payments for doctors' services, specifically in the fields of anesthesiology, radiology, pathology and physical medicine.

It was pointed out that the Council has given consideration to this matter on many occasions, past and recent, but thus far has not been able to resolve the problem. After discussing several possible ways in which the Council might be more effective in urging Connecticut Blue Cross and Connecticut Medical Service, Inc. to take point action on this recurring source of dissatisfaction to physicians practicing the specialties referred to, it was VOTED to authorize the Committee to Confer with the Insurance Commissioner to pursue this matter with the Commissioner and to seek prior discussions with representatives of Blue Cross and Blue Shield with a view to arranging for payment for physicians' services by Blue Shield and *not* Blue Cross.

(C) Recommendation of the Committee on Third Party Payments. After VOTING to amend a recommendation of the Committee on Third Party Payments by adding the words "at its discretion," it was VOTED to adopt the recommendation as follows:

"That the Council recommend to the CMS Board of Directors that a recognized Relative Value Scale be used by the Medical Advisory Committee, at its discretion, as a guide for correcting and avoiding inequities in the payment schedules of CMS contracts."

(D) Federal Employees Health Benefits Program. At the request of CMS, Inc., it was VOTED to instruct the Advisory Committee on the Medicare Program to assume the additional function of "adjudicating individual allowances for procedures whose fees are determined on an individual consideration basis" under the Federal Employees Health Benefits Program, and it was further VOTED that the Chairman and the General Manager shall jointly appoint such additional members to the Medicare Committee as may be deemed necessary.

AMA RESOLUTIONS. AMA Resolution No. 3, adopted in June, 1960, was presented for consideration.

"Resolved, that the American Medical Association encourage its members to take a greater interest in public affairs; and be it further

Resolved, That the individual members of the American Medical Association, as private citizens, take a more active part in the local, state and national government endeavoring to select qualified candidates for office, regardless of party affiliation of such candidates; and that the individual members of the Association work toward the creation of policies which preserve representative government, free enterprise, fiscal solvency and the integrity of the dollar; and be it further

Resolved, that the component medical societies of the American Medical Association be encouraged to further this program on the local level."

It was VOTED to approve this resolution which concerns the role of physicians in public affairs, to reproduce it in the Society's publications, and to transmit it to the component county medical associations for consideration and possible action.

AMA Resolution No. 41, adopted in June, 1960, was also presented for consideration.

"Resolved, that the American Medical Association, through its component state medical associations, and the various county medical associations, present medicine's story to the high schools of the nation in person."

It was VOTED to approve this resolution, which calls upon medical organizations to encourage qualified students to enter into courses of study leading to a career in medicine, and to transmit it to the Committee on Health Careers for implementation re prospective medical students.

CONNECTICUT HEALTH LEAGUE. It was VOTED to direct the Chairman to appoint a representative of the Society to serve on a new Committee on Chronic Diseases being formed by the Connecticut Health League.

ELECTION OF STUDENT MEMBER. The following student member was elected: Irwin Broudy, 287 Wayne Street, Bridgeport; New York Medical College—Class of 1963; Pre-Med: University of Bridgeport; Parent: Sam Broudy.

COMMITTEE TO CONFER WITH STATE INSURANCE COMMISSIONER. John N. Gallivan, Chairman, submitted a committee report on matters which had been discussed with Mr. Premo and his staff at a meeting held on August 4, 1960. Other members of the committee submitted supplemental written and verbal reports on the meeting so that the Council was fully informed of the views of the Commissioner and his office with respect to the operation of CMS, past, present and future, and particularly with the influence and control over CMS contracts, service benefits levels, etc. which he believes the Insurance Department is authorized to exert. Although the details of the matters discussed cannot be published at this time, each member of the Council has been provided with the printed reports of several members of the committee and is prepared to present the details to interested members of the Society on request, or as part of regular Councilors' reports to their governing bodies or to their county associations at general meetings.

Following the presentation of these reports and consideration of an item which had appeared in several Connecticut newspapers, on or about August 6, 1960, reporting certain details of the Conference which had been released to the press by the Commissioner's office, the following motion was introduced by J. B. Davis, Alternate Councilor from New Haven County:

"WHEREAS: a front page article in the New Haven Register of Saturday, August 6, 1960 by the Associated Press under a Hartford address contains a statement which is alleged to have been released by the office of the State Insurance Commissioner, and

WHEREAS: no editions of this newspaper between August 6, 1960 and August 10, 1960 have contained any disavowal of said article by the office of the State Insurance Commissioner, and

WHEREAS, certain statements contained in the abovementioned article appear to require careful study by competent legal counsel, therefore

IT IS MOVED: That the Council of the Connecticut State Medical Society secure responsible legal advice on the matters relating to the abovementioned article, and it is further

MOVED: That the costs of such advice be paid from the general funds of the Connecticut State Medical Society."

After lengthy discussion of the desirability or need for engaging legal counsel in this matter at this time, it was VOTED to table the motion, the vote being 11-5. A roll call vote was then called for and recorded as follows. Yes: Drs. Gallivan, Goldberg, Hess, O'Connor, Abbot, Bradley, Cornwell, Buckley, Murray, Gorman, Pollock, Grant, Phillips; No: Drs. Caplan, Rentsch, Gevalt, Davis; Abstaining: Dr. Weise.

It was pointed out that although representatives of both CMS, Inc. and the Society had now met with the Insurance Commissioner and his staff, these meetings had been held independently of one another. On this account, the thought was expressed that the views of the Commissioner, as presented to each group separately, might be profitably discussed jointly and it was then VOTED to adopt the following motion:

"The Council, having received the report of the Committee to Confer with the Insurance Commissioner, directs the Chairman of the Council to communicate forthwith with the president of Connecticut Medical Service, Inc. for the purpose of arranging a meeting between the Council and the CMS Board of Directors to discuss certain matters referred to in the report of that committee."

An amendment which again raised the question of engaging a legal advisor to advise the Council in these matters was lost.

AMA LEGISLATIVE CONFERENCE. It was VOTED to reimburse Clifford W. Mills, Norwalk, Chairman of the Committee on National Legislation, and Kenneth F. Brandon, Hartford, Chairman of the Committee on State Legislation, for expenses incurred in attending this conference at Hershey, Pennsylvania, on August 25-27, 1960.

SECOND MEDICAL SCHOOL IN CONNECTICUT. John N. Gallivan, Hartford, provided members of the Council with a printed report which described the proceedings of a meeting he had attended on August 1, 1960 at which studies of the possibility of establishing a second medical school in Connecticut were proposed. Dr. Gallivan, Dr. Feeney and Dr. Cullen had been invited to join officers of the Hartford County Medical Association in meeting informally with representatives of the Council on Medical Education and Hospitals of the AMA and with representatives of other agencies interested in this possibility. Dr. Gallivan stated that after further study, the ad hoc committee of AMA people and others would present a formal report containing advice and recommendations in this matter to President Jorgensen of the University of Connecticut. Later, perhaps, the Council will be invited to cooperate in reviewing definitive proposals on the subject and lending pertinent advice.

DATE OF NEXT MEETING. It was VOTED to direct the Chairman and the General Manager to set the date for the next meeting of the Council.

PLACEMENT OPPORTUNITY

For Sale—Office for general practitioner, equipped with all the necessary equipment such as fluoroscope, electrocardiograph, etc.

ANY PHYSICIAN INTERESTED IN THE ABOVE IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

PLACEMENT WANTED

Connecticut licensed physician would like locum tenens in general practice for a period of months or would be available for week ends and evenings.

ANYONE KNOWING OF AN OPENING FOR THIS PHYSICIAN IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

New Medicare Information

In connection with the Medicare program, the following abstracts were drawn from a letter received from the Office of Dependents' Medical Care in Washington, (ODMC Letter No. 6-60) dated July 19, 1960.

Subject—Submission of Claims and Payments

Para 2. Payment of claims under the Medicare program for care rendered in civilian sources will be made at a date *later* than the date entered on the claim form (DA form 1863) under item 18.

Claim forms should not be submitted at a date (item 28) prior to the date entered under item 18.

It is imperative that the "From" and "To" dates be entered under item 18, in order that the entire period of care is accurately established.

Under the existing program, authorized services involving surgical procedures include the following (except for asterisked items listed in the schedule of allowances);

A. *Preoperative Care*

(1) *Outpatient Prehospitalization Care*—A minimum of one preoperative outpatient visit prior to hospitalization, but may include additional visits if, at the discretion of the surgeon, he believes more than one such visit is included in his fee.

(2) *Inpatient Preoperative Care*—All care rendered by the operating surgeon in the hospital prior to surgery, including consultation (s) and/or examination (s).

B. *Postoperative Care*

(1) *Inpatient Postoperative Care*—That care necessary until the patient may safely be discharged to outpatient followup.

(2) *Outpatient Postoperative Care*—That care ordinarily necessary up to the number of days stipulated in the applicable schedule of allowances for the procedure involved.

NOTE: See Medicare manual for detailed information.

Para 4. Submission of Claims

Billings to Medicare for services performed by civilian sources *where care is incomplete* is to be discouraged, except where unusually long-term treatment is necessary.

Physicians are urged to submit claims only after care is completed. This will aid in reducing the amount of administrative work.

ROBERT W. HART, M.D.

Meetings Held In September

8	Committee on Public Health
28	Clinical Congress
28	Committee on Hospitals

Special Article

Contributions To Medical Science By General Practitioners

William C. Gibson, m.d.*
Vancouver, Canada

The list of useful contributions by general practitioners is a long and distinguished one.

The field of bacteriology and infection boasts contributions by two general practitioners which alone would make this subject well worth discussing. I refer to those of Edward Jenner (1749-1823), and Robert Koch (1843-1910). Their lives span more than a century and a half of the most exciting period in the study of infectious diseases. Strangely, protection from the terror of all civilizations—small pox—came a century *before* the isolation and demonstration under the microscope of even the first micro-organism causing a specific disease, anthrax.

Jenner must be the patron saint of all family physicians today for he typifies the country scientist interested in agriculture, birds, plants and flowers, the weather, and especially people. He had the good fortune to inhabit one of England's most delightful counties—Gloucestershire—and to practise in the village of Berkeley, just as tranquil today, with its remarkable castle, horses, hounds and geese, as ever it was. I was pained to see last summer, however, a road sign pointing to the site of an atomic reactor in the vicinity.

Edward Jenner
1749-1823
From a portrait in the Historical Medical Library, Yale University

Jenner began the practice of medicine in Berkeley at the age of 24, surrounded by his friends and those of his father, the Vicar. This move into general practice was by choice, and followed the rejection of Captain Cook's offer to take Jenner on his second expedition as naturalist, surely an inviting prospect for a young doctor with Jenner's native curiosity. It is clear that Jenner in his practice continued to pursue his undergraduate interest in cardiology, and we find him in a few years writing a paper which was to become a milestone: "Remarks on a Disease of the Heart following Acute Rheumatism." This paper was 20 years ahead of the generally recognized classics in this field. Other interests occupied his mind also, such as aeronautics. In the same year as Montgolfier in France ascended to 1,000 feet in a balloon, Jenner constructed a hydrogen balloon in the great hall of Berkeley Castle, and cast it adrift over the Vale. It travelled for miles, and luckily for Jenner, was returned to him intact, for another charge of hydrogen. It will be recalled that in France the peasants had set upon the early balloons as they descended, and tore them to pieces with pitchforks, thinking them possessed.

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* Lecture delivered at Yale University, 28 January 1960, by the Visiting Professor of the History of Medicine, and Kinsmen Professor of Neurological Research, University of British Columbia, Vancouver, Canada.

At the age of 42, Jenner gave us our first description of the allergic process known as "anaphylaxis," or hypersensitivity to an injected foreign protein sometime after the administration of a minute amount of it. He was determined to find out how much immunity to smallpox his patient Mary Barge had acquired as the result of an attack of the disease. He therefore injected under her skin a small amount of living smallpox virus, and was astonished at the body's reaction. He wrote: "It is remarkable that variolous matter when the system is disposed to reject it should excite inflammation . . . more speedily than when it produces the smallpox. . . . It seems as if a change, which endures throughout life, had been produced in the action or disposition to action, in the vessels of the skin. . . . Whether this change has been effected by the smallpox or the cowpox, the disposition to sudden cuticular inflammation is the same on application of variolous matter." He discussed the likelihood of "a sympathy between the constitution and the skin, in all probability through the brain and nervous system."

Then, after 23 years of gathering evidence on reported protection against smallpox by prior exposure to cowpox, Jenner took the plunge. His own words best give us the story:

> "I selected a healthy boy (James Phipps) about eight years old, for the purpose of inoculation for the cow-pox. The matter was taken from a sore on the hand of a dairy maid (Sarah Nelmes) who was infected by her master's cows, and it was inserted on the 14th day of May, 1796, into the arm of the boy by means of two superficial incisions, barely penetrating the cutis, each about half an inch long.
>
> On the seventh day he complained of uneasiness in the axilla, and on the ninth day he became a little chilly, lost his appetite, and had a slight headache. During the whole of this day he was perceptibly indisposed, and spent the night with some degree of restlessness, but on the day following he was perfectly well. . . . In order to ascertain whether the boy, after feeling so slight an affection of the system from the cowpox virus, was secure from contagion of the smallpox, he was inoculated on the first of July following, with variolous matter, immediately taken from a pustule. Several slight punctures and incisions were made on both his arms, and the matter was carefully inserted, but no disease followed. . . . Several months afterward he was again inoculated with variolous matter, but no sensible effect was produced. . . ."

Over the ensuing three years the busy country practitioner found time to bring together his little publication, "An Inquiry," in which he gave to the world his description of 23 successful vaccinations against smallpox. The copies which we have before us today, thanks to the great resources of Yale's Medical Historical Library, demonstrate the utter simplicity and directness of Jenner's reporting. He was obviously not subsidized by some manufacturer, for there was nothing slick nor public-relationsy about his little effort, no talking in technicolour to which my commercial friends are given. There was no fanfare, television preview, nor press conference heralding this, one of the greatest "firsts" of all time. In fact it took fifteen years for the good news to sufficiently impress my predecessors at Oxford, a few miles away, to confer an Honorary Degree. But I am doubly glad that they did when I read that the College of Physicians in London refused to admit Jenner except by examination. General practitioners, it would seem, may save the world, but may not enter the kingdom of specialists. Some day I hope that no doctor may call himself a specialist until he has had one year's apprenticeship under a supervising country practitioner.

One surgeon, Mr. Cline of St. Thomas's Hospital, had his imagination fired by Jenner's discovery. He wrote Jenner that he could expect an income of the fantastic amount of £10,000 per year if he would practise in London. Jenner's reply should be on the walls of every general practitioner today:

> "Shall I, who even in the morning of my days sought the lowly and sequestered paths of life, the valley, and not the mountain; shall I now my evening is fast approaching, hold myself up as an object for fortune and for fame? Admitting it as a certainty that I obtain both, what stock should I add to my little fund of happiness? My fortune, with what flows in from my profession, is sufficient to gratify my wishes; indeed, so limited is my ambition, and that of my nearest connexions, that were I precluded from further practice, I should be enabled to obtain all that I want. And as for fame, what is it? a gilded butt, forever pierced with the arrows of malignancy."

One is reminded of the obituary notice of Helmholtz which appeared in London's effervescent *Punch:*

"When Emperors, Kings, Pretenders, shadows all,
Leave not a dust-trace on our whirling ball
Thy work, O grave-eyed Searcher, shall endure,
Unmarred by faction, from low passion pure."

A century after Jenner's great observation, another general practitioner, Robert Koch, working in a country practice in Wollstein, Germany, discovered the spore-forming anthrax bacillus and proved, for the first time in history, that a specific causal organism produced a specific disease. The

Henry Hill Hickman

cost of anthrax infections to this farming community had been so high that any general practitioner would have felt some obligation to investigate its origin. In Robert Koch, the people of Wollstein were doubly blessed. Their physician had won a prize essay contest in his third year of medical school on a neuroanatomical subject, and for his graduation dissertation he had performed many experiments, some on himself, on the excretion of succinic acid in animals fed upon nothing but fat and meat. In other words he knew how to make orderly observations and how to ask Mother Nature the right questions. As a child he had often accompanied his engineer father on botanizing and mineralizing expeditions. The ever-helpful Professor Krause at Göttingen University who, as we saw in a previous lecture, did so much for Ramón y Cajal, made Koch his undergraduate assistant in the Pathological Museum. Thus, in Pasteur's phrase, we find "fortune favoring the prepared mind." But, again, as in Jenner's case, Koch *cared* what happened to his farmers, their families and their flocks, and because he cared sufficiently he found out what caused the deadly disease, anthrax. This is but another example of the truth of the late Alan Gregg's view that mistakes in medicine are not made by men who do not *know,* but by men who do not *care.* Koch *cared,* and as a result the little world of Wollstein was changed; and soon a bigger world still, was changed.

Koch's recognition began when the friendly botanist Ferdinand Cohn of Breslau listened to the story of the isolation of the bacillus, its transmission through several generations of mice, and even its growth in artificial media outside the body. Among the first to see Koch's demonstrations in Breslau and to support his views was William Welch. The discovery of the tubercle bacillus, and the statement of his four postulates, brought Koch to the very zenith of his career. It was but a logical continuation of his work carried on for so long behind a little screen in the examining room in his rural practice in Wollstein.

The most important drug in the history of cardiology, digitalis, was introduced by the general practitioner William Withering in 1785. As a medical student at Edinburgh, he had read two papers on dropsy to the Royal Medical Society, the oldest student society in Britain. After returning to the west country to practise, he began to study botany in earnest, and his activities as a naturalist remind one of other Shropshire men such as the Darwins, Beddoes and Hickman of anaesthesia fame. In his "Account of the Foxglove," a little volume which was to change the lives of all sufferers from heart disease, he wrote:

> "In the year 1775, my opinion was asked concerning a family receipt for the cure of dropsy. I was told that it had long been kept a secret by an old woman in Shropshire, who had sometimes made cures after the more regular practitioners had failed. I was informed also, that the effects produced were violent vomiting and purging; for the diuretic effects seemed to have been overlooked. This medicine was composed of 20 or more different herbs; but it was not very difficult for one conversant in these subjects to perceive, that the active herb could be no other than Foxglove."

Withering saw between 2,000 and 3,000 sick poor per year in special free clinics which he set up, and for them he did his best to work out a safe and yet useful dosage for the decoction of Foxglove leaves. He knew that the active principle varied in strength depending on the time of year the leaves were removed from the plant. He said:

> "I soon found the Foxglove to be a very powerful diuretic; but then, and for a considerable time afterwards, I gave it in doses much too large, and urged its continuance too long. . . . I had not, however, yet introduced it into the more regular mode of prescription; but a circumstance

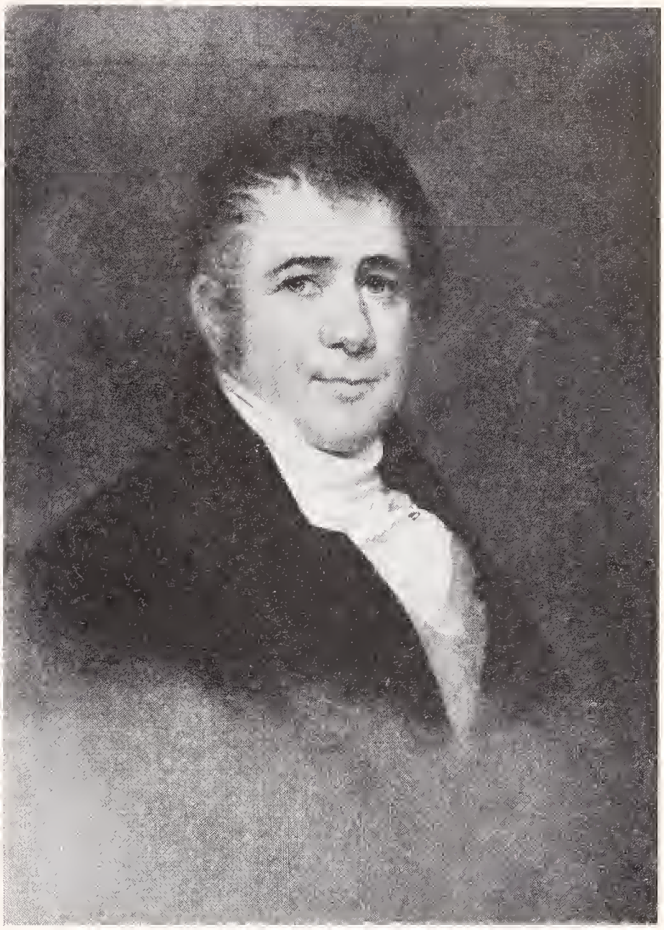
happened which accelerated that event. My truly valuable and respected friend, Dr. Ash, informed me that Dr. Cawley, then principal of Brazen Nose College, Oxford, had been cured of a hydrops Pectoris, by an empirical exhibition of the root of the Foxglove, after some of the first physicians of the age had declared they could do no more for him. I was now determined to pursue my former ideas more vigorously than before."

The most interesting thing about Withering, it seems to me, was that he was like all good physicians, a good listener, and he took seriously what people told him. Thus he learned of a Foxglove remedy for dropsy in the neighborhood of Warwick, and another in west York. He wrote:

> "In confirmation of this, I recollect about two years ago being desired to visit a travelling Yorkshire tradesman. I found him incessantly vomiting, his vision indistinct, his pulse forty in a minute. Upon enquiry it came out that his wife had stewed a large handful of green Foxglove leaves in a pint of water, and given him the liquor, which he drank at one draught, in order to cure him of an asthmatic affection. This good woman knew the medicine of her country, but not the dose of it, for her husband narrowly escaped with his life."

Withering probably felt that his labors were rewarded when in 1783 his Foxglove was placed in the Pharmacopoeia of his old Medical School in Edinburgh.

The middle of the 19th century saw the action of digitalis being made the subject of the Corvisart Prize Essay in the Faculty of Medicine in Paris. The winner in 1850 was Paul-Louis Duroziez. This was the beginning of a long and productive career in cardiology by a general practitioner who never held a teaching or attending post at any of the university hospitals in Paris. At the age of 35 he published his first classic: "The Double Intermittent Murmur over the Femoral Arteries as a Sign of Aortic Insufficiency." This murmur is still known as Duroziez's sign. In the same year he published a paper on the pure type of mitral stenosis, thereafter known as "Duroziez's Disease." While serving as a school physician in 1891 he was awarded prizes for his book, "Traité Clinique des Maladies du Coeur," by the Academy of Medicine and the Institute of France. Perhaps because he was a general practitioner he retained his lively sense of humor, and loved to tell his confrères that the heart had a male half, the left ventricle, which was "calm, regular and stable." The right half was the female half, "nervous, impressionable and often disordered." It was said of Duroziez that "Bruits were to him sweet music; he listened to them in the chest, surprised them in the back, pursued them into the neck and even into the thigh."



John Stearns
1770-1848

Coming now to more modern times, we must consider the amazing life of Sir James Mackenzie, born in the year 1853 in the parish of Scone, the site of the crowning of Scottish kings since time immemorial. Mackenzie was regarded as a "dunce" at school in Perth because he was not concerned to memorize things, and he wrote of these days: "The subjects in which I did well were those in which my understanding, rather than my memory, was called into play." He left school at the age of fifteen, a dispirited and unhappy lad, and for five long years served an apprenticeship with a local pharmacist. In this situation, the only scientific one open to him in Perth, he saw the country practitioners who came into the town to have their remedies compounded. By the age of 22, Mackenzie determined upon a medical career, and even turned down an offer of a lucrative partnership in the pharmacy.

Going up to Edinburgh with his brother, he lived literally on "oatmeal porridge and the shorter catechism." His pre-clinical work was drudgery of the worst sort, and the teaching just as uninspiring as when Charles Darwin had tried medicine there, only to give it up for theology at Cambridge. Mackenzie was, in later years, so articulate that I think he should tell his own story. He wrote:

> "The outcome of the teaching of today is to hail the student with superior powers of memorizing as the brilliant student, and the one with the great future. [Obviously he had not heard Henry Angus' definition of a Rhodes Scholar as a man with a brilliant future behind him.] The consequence is that his path from the outset is made easy for him. Bursaries and scholarships fall to his share, and before he has acquired any experience, he is appointed to a teaching post. In the absence of any knowledge acquired from the results of his own observations, he is forced to teach that which he was himself taught, and as he cannot discriminate between truth and superstition, he hands both on to his students. As years pass he comes to believe what he has taught is true and may even grow impervious to new ideas which are contrary to the beliefs he has been expounding."

He added:

> " . . . during my college career I felt a longing to devote myself to some of the branches of medicine concerned in research, but my very moderate attainments precluded me from obtaining any of the coveted posts about the University, and I quite clearly recognized that I was only suited for what is considered the lowest place in the medical profession."

Nevertheless, Mackenzie hit his stride when he reached the bedside years of the medical course, and graduated with three medals. On the advice of his instructor in anatomy, Dr. John Brown, Mackenzie sought a residency in Edinburgh's Royal Infirmary, and was surprised to be accepted for the November 1878 group coming on service. He filled in the intervening months as a *locum tenens* in a colliery practice in County Durham. There he was initiated into the worst features of "club" or "lodge" medicine, some of which unfortunately persist in Britain today. (It is doubly unfortunate that Americans are told, by people who should know better, that these evils stem only from the National Health Service legislation of 1945.) Poor Mackenzie was thunder-struck by what he saw—the most pernicious form of "bottle medicine," and as a well-trained pharmacist he knew the swindle that was being practised on the miners who placed great store by what they regarded as "powerful" mixtures, which were nothing but burnt sugar and water with a little ginger flavoring.

The same good Dr. John Brown, a year later, persuaded Mackenzie to join him and a partner in a large Lancashire type of practice in the town of Burnley, soon to become the shrine of all cardiologists. He found his Edinburgh hospital training quite unrelated to the patients he was now seeing. He ransacked his student notes and texts, without success, and even bought an encyclopaedia, rivalling in size, though not in content, Dr. Eliot's Bookshelf. He wrote prophetically:

> "For some years I thought that my inability to diagnose my patients' complaints was due to personal defects; but gradually, through consultations and in other ways, I came to recognize that the kind of information I wanted did not exist."

He continued:

> "About 1883 or 1884 I resolved to begin a series of careful observations entirely for my own improvement, never dreaming of research, for I was under the prevalent belief that medical research could only be undertaken in a laboratory or, at least, in an hospital with all the appurtenances. I merely sought to find out something about the nature of my patients' complaints. I had recognized that when the patients had some physical sign, and when disease had made considerable ravages in the body, a moderately accurate diagnosis could be made; but in the vast majority of my patients there was no physical sign, or if there was a physical sign, I was not sure of its relationship to the patient's ill-health. . . . I had thus placed before me two definite objects, at which to aim: (1) understanding of the mechanism of symptoms, and (2) understanding of their prognostic significance."

The loss of a patient in labor, from heart disease, so disturbed Mackenzie that he vowed he would find out the causes of heart disease, and he did, as all the world knows today. Starting from an analysis of the pulse, in a variety of normal and pathological conditions, he progressed to the ink polygraph and electrocardiograph, but always with the clinical notes beside him. He followed his patients over the years and correlated autopsy findings with clinical symptoms in a masterly way. Most of all, he proved for all with eyes to see, that clinical science was a field crying out to be studied, and he was not content to be detained and deterred by people studying frogs, and by pedants working off their obsessive compulsive neuroses by classifying everything within sight, especially those diseases which they did not understand.

When Osler went from Johns Hopkins to become Regius Professor at Oxford in 1905, he lost no time in visiting Mackenzie at Burnley, as Cushing records, with one of my clansmen, A. G. Gibson from Oxford. A year later Sir Arthur Hurst returned from Germany to blast his British colleagues with the startling information that only Mackenzie was known on the Continent. Thus did a general practitioner, working quietly but purposefully for 30 years in a Lancashire mill town, with the people that he loved, build the framework on which all scientific cardiology rests today.

Endocrinology has had its contributors, too, from the field of general practice. The name of Kussmaul is always associated with diabetes because of his description of the "air hunger" manifested by the diabetic in coma. The life of Kussmaul as a rural physician is not well known, however, and I want to discuss it briefly, because the powers of clinical observation developed in a practice near the western borders of Germany in the middle of the last century were both remarkable and productive.

Adolph Kussmaul was born into a long line of doctors who had served the Soellingen district well. Indifferent schooling led Adolph to accompany his father on consultations out into the country, where he learned a great deal about Nature. At the age of 18 he entered the University of Heidelberg, in the toughest of the duelling days. His medical career there was notable for the length of time which he was privilege to spend with Naegele in obstetrics, and for the Karl Frederick Gold Medal which he won for his student research on illumination of the inside of the eyeball. The rudimentary ophthalmoscope which he made was, of course, not up to that soon designed by Helmholtz, but the methods applied to the hitherto unsolved problem were very original.

After post-graduate clinical work in Heidelberg, Kussmaul went to Vienna where he fell under the spell of the rising Semmelweiss. In fact, Kussmaul arrived soon after Semmelweiss' friend, Kolletschka died of a post-mortem infection, which triggered the whole investigation leading to Semmelweiss's new antiseptic routine on his ward. After serving two years in the German army as a medical officer, and learning a great deal about epidemic infections, Kussmaul settled down to practise in Kandern, a small town in which he had been stationed for some time while in the Army. In the next three years he published six first-class papers, on such subjects as acute articular rheumatism, the spread of epidemic dysentery—a classic—and septic stomatisis—with the only autopsies outside of the series of Virchew and Rokitansky. Then in 1853 the blow fell. He came down with an ascending spinal cord disease, which nearly took his life. He was left with limited use of his legs and had to give up all thought of practice. He therefore took further training with Virchow at Wurzburg and began teaching at Heidelberg. For a further 42 years this remarkable man taught German medical students and became a famous consultant. He is said to have given the first descriptions of periarteritis nodosa and of progressive bulbar palsy. He returned again and again to the themes of his papers published while in general practice.

Endocrinology as applied to the adrenal glands provides one of the most fantastic stories of all. Sir Henry Dale has described it thus:

> "Dr. George Oliver, a physician of Harrogate, employed his winter leisure in experiments on his family, using apparatus of his own devising for clinical measurements. In one such experiment he was applying an instrument for measuring the thickness of the radial artery; and, having given his young son, who deserves a special memorial, an injection of an extract of the suprarenal gland, prepared from material supplied by the local butcher, Oliver thought that he detected a contraction or, according to some who have transmitted the story, an expansion of the radial artery. Whichever it was, he went up to London to tell Professor Schäfer what he thought he had observed, and found him engaged in an experiment in which the blood pressure of a dog was being recorded; found him, not unnaturally, incredulous about Oliver's story and very impatient at the interruption. But Oliver was in no hurry, and urged only that a dose of his supra-renal extract, which he produced from his pocket, should be injected into a vein when Schäfer's own experiment was finished. And so, just to convince Oliver that it was all nonsense, Schäfer gave the injection, and then stood amazed to see the mercury mounting in the arterial manometer till the recording float was lifted almost out of the distal tube."

Everyone today knows that as the longevity of our population increases so does Parkinsonism, but few people know what manner of man was Parkinson. He was a remarkable general practitioner who was born, married, arrested, and buried in Shoreditch, London. He practised there all his life. He was a benign soul, but did not suffer fools gladly, especially if they were quacks or politicians. His medicine he learned as an apprentice to his father, an apothecary surgeon. His first publication concerned three cases struck by lightning. By the time the French Revolution was well under way, however, Parkinson was to be found writing some wonderfully barbed pamphlets under the name "Old Hubert," and in his first he set out to demolish Edmund Burke. It was entitled "An address to the Hon. Edmund Burke from the Swinish Multitude." It concluded:

> "Let us then be all esteemed as swine together; we will be satisfied with the plain appellation of the *swinish multitude*, whilst you and your friends who are so fond of distinction, shall be termed HOGS OF QUALITY."

His next pamphlet was entitled: "Pearls cast before swine by Edmund Burke—scraped together by Old Hubert." Others followed, such as: "The Budget of the People," "Knave's Acre Association," and "Masts and Acorns." Tom Paine had already flown to France after writing his "Rights of Man," but James Parkinson kept busy at his practice, all the while issuing broadsides against the most corrupt group known to British history. He courageously appeared before the Privy Council to defend his imprisoned friends who merely sought parliamentary reform.

With all this going on Parkinson found time to write books on medicine for laymen, and to investigate cancer, gout and diphtheria in his practice. His "Chemical Handbook" of 1799 went into four editions in 10 years. In 1800 three more books followed, and then came his remarkable three-volume geological work "Organic Remains of a Former World."

In 1817 he wrote the classic "Essay on the Shaking Palsy." With great insight he said that: "the disease depends on some irregularity in the direction of the nervous influence by the wide range of parts which are affected, that the injury is rather in the source of the influence than merely in the nerves of the parts" . . . He noted: "involuntary tremulous motion, with lessened muscular power, in parts not in action and even when supported, with a propensity to bend the trunk forwards and to pass from a walking to a running pace; the senses and intellects being uninjured."

While Parkinson, who regretted having no post mortems in his 1817 work, pleaded that "analogy is the substitute for anatomical examination," he little realized that in another part of London in that very year was born Jacob Augustus Lockhart Clarke, whose anatomical labors while a general practitioner were to change our way of thinking about neurological problems. Again the riches of your Historical Library allow me to place before you the superb papers and drawings of this master investigator, beginning in 1851. We speak daily in clinical neurology and neuroanatomy of "Clarke's Column," little realizing that we owe a great debt to a busy family physician of a century ago. When we place Canada balsam under a cover slip in microscopy we should salute Clarke who first introduced this method of preserving valuable preparations.

Within three years the ever-discerning Royal Society of London made him a Fellow, and in 1863 awarded him its gold medal for his researches. A few years before he died he gave up general practice, to concentrate on nervous diseases, but it is important for us to realize that his contributions to knowledge, and they were great ones, were made as a family doctor. He received precious little recognition from his profession, but his fame as a scientific investigator is still world-wide.

We have already discussed George Huntington in the first lecture, but it is worth recording that it was in his first months as a general practitioner in East Hampton, Long Island, that he systematically went through all the records of his father's and grandfather's practice in search of evidence of the hereditary nature of what we now call Huntington's Chorea, together with the age of onset, and the mental disturbances associated with it. After he had taken up general practice in Pomeroy, Ohio, a year later, he read his paper in Middleport, Ohio, and had it published soon afterwards in the Medical and Surgical Reporter of Philadelphia. The keen-eyed Kussmaul in Germany lost no time in abstracting it for Virchow's "Jahrbuch." Osler wrote of it: "In the history of medicine there are few instances in which a disease has been more accurately, more graphically and more briefly described."

The remainder of Huntington's life was spent in general practice in the Catskill Mountains, where the outdoor life, and an interest in geology, birds, and sketching brought him great joy. Even in the hardest times financially, he kept up a good library and continued to study hereditary chorea. Huntington would have been the first to echo Jenner's words concerning practice in the country: "Here you may shut out as much of the artificial world as you please, and enjoy it more in the state in which Nature fashioned it."

To complete our excursion into neurology I should like to deal briefly with the life of James Ross, which has been brought so compellingly to our attention in recent years by that delightful neurosurgeon and historian, Sir Geoffrey Jefferson. Ross was from Aberdeen, but spent several years on whaling expeditions to Greenland, and in general practice at Burnley, Sir James Mackenzie's town in Lancashire, before settling in Manchester. Despite his demanding life as a family doctor he found time to write several important papers, one of which called forth the admiration of Thomas Huxley. Russ unquestionably put Mackenzie on the right track concerning the "referred pain" of heart disease. But Ross was an honest man, and gave credit for his hypothesis where it was due when he wrote: "In observing a case of pleurisy a few days ago and casting about for an explanation of pain in the shoulder that, considering the connections of the phrenic, one of the students suggested the pain might be caused by irritation of that nerve." Ross's later career consisted of 15 short years of concentrated clinical observation, eventually leading to the Chair of Clinical Medicine at

Manchester, and of the highest type of recognition in the neurological world.

If we may proceed from a discussion of pain to one on anaesthesia, I should like to introduce one of the most overlooked men in medicine, a courageous and enquiring general practitioner, Henry Hickman. In his 30 short years of life, in that paradise, Shropshire, Hickman proved that "the pain of surgical operations could be abolished by the inhalation of a gas." That gas was carbon dioxide. A small pamphlet by Hickman in 1824 is his only publication of his series of experiments on animals, in which parts of the body were removed without pain, thanks to carbon dioxide narcosis. Only the *Gentleman's Magazine* of 1825 seems to have reviewed this pamphlet. Thus an appeal to the King of France, Charles X, was made, probably through some British painters in his employ, and the matter was finally passed to the Royal Academy, where it would seem from notations in the minutes of that body, that the whole proposition was received with the greatest skepticism. There was one dissenter from the general view, Baron Larrey, the surgeon to Napoleon's armies. It has been said that Larrey offered to be the first patient to undergo carbon dioxide anaesthesia. However, Hickman returned to England and was dead, presumably of tuberculosis, within a year, at the age of 30.

It would seem presumptuous of me to discuss contributions by general practitioners in the field of obstetrics in the presence of your Emeritus Professor of that subject, Dr. Herbert Thoms, the more so since he has laboured so long and productively to retrieve from oblivion the lives of such masters of his art as John Stearns.

In the year of the French Revolution Stearns graduated with highest honours from Yale College and took up the practice of medicine in his native Massachusetts. In time he was to serve as an Army Surgeon and to attend lectures of such giants in Philadelphia as Shippen, Wistar and Rush. At the age of 37, and while practising at Waterford, New York, Stearns made his great contribution to obstetrics by a communication on the value of ergot, its uses and limitations. He had already been using it for several years "with the most complete success" and wrote:

> "It expedites lingering parturition, and saves to the accoucheur a considerable portion of time, without producing any bad effect on the patient. The cases in which I have generally found this powder to be useful are when the pains are lingering, have wholly subsided or are in any way incompetent to exclude the foetus. Previous to its exhibition it is of the utmost consequence to ascertain the presentation, and whether any preternatural obstruction prevents delivery; as the violent and almost incessant action which it induces in the uterus precludes the possibility of turning."

With true candour he added:

> "The modus operandi I feel incompetent to explain . . . It is a vegetable, and appears to be a spurious growth of rye. On examining a granary where rye is stored, you will be able to procure a sufficient quantity from among the grain. Rye which grows in low wet ground yields it in greatest abundance."

Stearns warned against the indiscriminate use of the drug, just as Withering, 20 years previously had had to warn against the near-fatal doses of digitalis being dispensed. In fact the parallel between the early work of the two men is uncanny.

When Stearns finally found time from his busy practice to codify his work on ergot, he published, in 1822, his classic entitled: "Observations on the Secale Cornutum or Ergot, with directions for its use in Parturition." He began:

> "It was not until the year 1807 that the ergot ever appeared before the public in a form to arrest the attention of medical men. Some years previous to this, I was informed of the powerful effects produced by this article, in the hands of some ignorant Scotch woman, in the county of Washington. Determined to try its efficacy, I procured a quantity from a field of rye. My information was such as to impress upon my mind the necessity of extreme caution in my first experiments. The continued influence of this impression upon my subsequent practice, has been a source of much consoling reflection. It has tended to prevent those fatal errors which have so often occurred. . ."

The chronicler of the life of Stearns, Dr. Herbert Thoms, while a general practitioner at New London, Connecticut, was one of the first to urge the use of blood pressure determinations *routinely* in all major surgical procedures. In the January, 1912, edition of *Surgery, Gynecology and Obstetrics* he wrote:

> "Although the clinical use of the sphygmomanometer is well established, its use in connection with surgical procedure is in no way general . . . Where the determination of blood pressure is used in this connection, the usual procedure is to record the pressure just before and immediately after, operation. There is no doubt that in this way we have a valuable aid to the diagnosis of surgical shock, but we have no means of knowing how long such shock, if present, has supervened. . . . It is the purpose of this paper to emphasize the importance of recording the sys-

tolic blood pressure, together with the pulse and respiration at five minute intervals."

You will be interested in a letter from Harvey Cushing to the Superintendent of the Massachusetts General Hospital recounting the history of a similar proposal made eight years earlier. He said:

> " . . . the Division of Surgery (M.G.H.) appointed a committee to report on the subject. This report appeared March 1904, (as) Bulletin No. 2 of the Division of Surgery, and the final conclusion of this committee was, as printed: 'The adoption of blood pressure observations in surgical patients does not at present appear to be necessary as a routine measure.' I have always felt that this was one of the most interesting illustrations on record, of the reaction against the introduction of an instrument of precision into clinical use. It is precisely what happened in the case of the thermometer, the stethoscope, the X-ray, indeed of the watch itself."

When I think of Dr. Thoms' background in general practice, and also that of Dr. Robert Green in Yale's Department of Preventive Medicine, I begin to believe that the authorities here must have been listening to Sir James Mackenzie when he gave his great address, "The Future of Medicine," in 1919. He said: "There should be in every school of medicine one or more teachers who have been in general practice for 10 to 20 years. Indeed it would be well if a young man were encouraged to enter general practice with the expectation that if he proved himself fit he should be qualified to become a teacher, and have the opportunity in a well equipped hospital of solving the problems he has had to face in his practice."

To hasten on to contributions in the realm of physics, I must direct your attention to that remarkable general practitioner of Heilbronn in Germany, Robert Mayer (1814-1878). At the age of 24 he worked out the pharmacological action of the newly-synthesized drug "santonin," a vermicide still in use today. At the age of 28, Mayer found himself as a ship's doctor, sitting in the harbour of Surabaya in Java, thinking about "forces" as related to "matter." In one blinding flash he saw the connection and, as a result, gave us the first law of thermodynamics. I would venture to suggest that he was on the deck, watching the unloading of cargo from the hold when he wrote: "In numberless cases we see motion cease without having caused another motion or the lifting of a weight; but a force once in existence cannot be annihilated, it can only change its form; and the question therefore arises: What other form is force, which we have become acquainted with as a falling force and motion, capable of assuming?"

As the cargo plummits to the dock and the already smoking brake shoe is applied to the drum of the huge winch, I can see him writing:

> "If, for example, we rub together two metal plates, we see motion disappear, and heat, on the other hand, make its appearance, and we have now only to ask whether *motion* is the cause of heat."

Mayer conducted no experiments, but simply delivered himself of this tremendous generalization. Throughout his subsequent life as a general practitioner in Heilbronn he laboured to perfect his statement of it, and to test it with the experimental findings of workers in the field. The last 20 years of his life were spent, unfortunately, in a mental hospital, for he was broken by the vindictive priority merchants and publicity parasites who sought to belittle his contribution. It is reminiscent of the Horace Wells and Semmelweiss tragedies.

The patron saint of physicians working in the field of forensic psychiatry is Isaac Ray who was born in Beverly, Mass., in 1807, attended Phillips Andover Academy and Harvard Medical School. He opened his general practice in Portland, Maine, and to support himself at first gave lectures in botany. He published a book there, "Conversations on the Animal Economy, designed for the instruction of Youth." After a year's study in France he set up practice in Eastport, Maine, and it was there in 1838 that he published his great book "Medical Jurisprudence of Insanity." There had never been anything like it before, and in short order it went through six American editions and one British edition. Some even compared it to the writings of Esquirol. This was the undoing of a good general practitioner in Maine, but the best possible float to posterity. Three years later Ray was called to the post of Medical Superintendent of the State Hospital for the Insane, and eventually to the Butler Hospital in Providence. The fifty remaining years of his life saw one book or paper published by him annually. He was truly a founder of American psychiatry.

The founder of modern psychotherapy, however, was "a quiet, pleasant benevolent and hardworking French country doctor," A. A. Liébeault (1823-1904). From medical student days he had been interested in Mesmerism, but it was not until two years after commencing general practice in Nancy in 1864 that he published his book "Sleep-like states and the effect of mind on body." The fact that only one copy was sold did not bother Liébeault nor his doting patients who called him, significantly, "le bon père Liébeault." The frugal peasants succumbed to his proposal that he would treat them with drugs if they insisted, but he would have to charge them. However if he used only psychotherapy they would not have to pay a sous. The fact is, however, that it was to Liébeault's little two-room clinic set in his garden, that Freud journeyed to learn the rudiments of psychotherapy. In rural Nancy he was to see at work a master therapist, a country doctor who was as successful with his therapy as he was interested in his patients. Freud wrote of his visit:

> "I received the profoundest impression of the possibility that there could be powerful mental processes which nevertheless remained hidden from the consciousness of men."

In the light of this excursion we can more readily understand Freud's saying that "Psychoanalysis is the administrator of the estate left by hypnotism."

Time will not permit any extended discussion of the country practitioner of Warwickshire in England, George Bodington, who was a generation ahead of all others in the fresh air sanatorium treatment of tuberculosis. He published a little book in 1840, with a title requiring seven lines of print, which was the beginning of the end for the criminal treatment of tuberculosis then in vogue: purgation, exclusion of all fresh air, calomel, digitalis and blood-letting. He was one of Osler's favourites.

Finally, and all too briefly, we come to that little band of general practitioners who have made other men's views available to us through their translations. The greatest in all time possibly was Francis Adams, who spent his whole life as a rural practitioner at Banchory in Scotland, where he translated "The Genuine Works of Hippocrates" (1849). On entering grammar school in Aberdeen he had found he was frightfully deficient in the classics. He set out to remedy this, and overshot his mark to such a degree that his translations and books on Greek philology, his Greek Lexicon of the names of plants and animals, and a book on the human placenta (1858) made him famous. At Yale Medical School, during the second world war, a Canadian general practitioner, Iser Steiman, born in Russia and practising among the Ukranians on the Canadian Prairies, translated the amazing Russian Aviation Medical volume published in Moscow just before the war. The ever-helping hand of John Fulton and his catalysing influence in aviation medicine, rendered all this possible. Before I close I feel I must make reference to the New Hampshire general practitioner who is here today, Dr. Oliver Hayward, who is writing a definitive life of Yale's founder, Nathan Smith.

I trust that the portrait of general practitioners as contributors to medical science, painted for you today, will inspire more students to seek general practice as the best continuation of their education started here, and as one of the most rewarding lives still open to man.

"When, according to Greek mythology, beautiful, inquisitive Pandora opened the box given her by Jupiter and let fly all the miseries and evils that afflicted man, only Hope was left. On this planet of ours, where land and sea have already been conquered, Hope is represented by Medicine, which will make possible space travel—man's new goal—and the conquest of health and peace on the shoreless ocean of Time."

—Martí-Ibáñez, *Centaur*

The miracle behind miracles is that in nature there is no surrender.

PURPOSE...

In the path of any purposeful effort, there are obstacles that must be expected and overcome. For example, Blue Shield and the doctors who support it have not been without their share of problems in planning a program for care of the aged. Yet there has been no thought of giving up, for much has already been accomplished. As one doctor sums it up: "Blue Shield Plans already cover people over 65 in the same proportion as they exist in the population at large—and membership is growing at a faster rate in this age group!"

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Hotel Statler, Hartford

SEPTEMBER 28, 1960

GENERAL INFORMATION

REGISTRATION FEE:

The registration fee of $5.00 provides for admission to all sessions of the Congress.

Hospital residents and interns will be admitted without charge, if a statement of their position, signed by an official of the hospital, is presented at the registration desk.

MEETING PLACE:

All of the sessions will be held in the Ballroom and the Boston, Buffalo, New York and Washington Rooms of the Hotel Statler.

TELEPHONE:

Telephone messages will be received at Hartford CHapel 9-5611.

LUNCHEON:

Luncheon will be available in the regular dining rooms.

PARKING:

There are public parking areas near the hotel and metered curb parking.

PROGRAM

WEDNESDAY, SEPTEMBER 28, 1960

9:00 Registration on Mezzanine

BALLROOM

Martin E. Gordon, *New Haven, presiding*

9:30 Evidence for the Role of Sodium in the Causation of Hypertension

George R. Meneely, *Nashville, Tennessee; Associate Professor of Medicine, Vanderbilt University School of Medicine; Director, Clinical Radioisotope Center*

10:30 Malignancy and the Third Circulation

Oscar V. Batson, *Philadelphia, Pennsylvania; Professor, Anatomy, Graduate School of Medicine, University of Pennsylvania*

BOSTON ROOM

Paul F. McAlenney, Jr., *New Haven, presiding*

9:30 Neonatal Respiratory Distress

Stuart Shelton Stevenson, *East Orange, New Jersey; Professor of Pediatrics and Chairman of Department of Pediatrics, Seton Hall College of Medicine; Pediatrician-in-Chief, Jersey City Medical Center*

10:30 Genetics and Metabolic Disease

Barton Childs, *Baltimore, Maryland; Associate Professor of Pediatrics, Johns Hopkins University School of Medicine; Pediatrician, Johns Hopkins Hospital*

11:30 Intermission

BALLROOM

John C. Leonard, *Hartford, presiding*

11:45 Clinicopathological Conference

Benjamin Castleman, *Boston, Massachusetts; Clinical Professor of Pathology, Harvard University Medical School; Chief, Department of Pathology, Massachusetts General Hospital*

Discussant: Franklin H. Epstein, *New Haven; Associate Professor of Medicine, Yale University School of Medicine.*

1:00 Luncheon

PROGRAM

WEDNESDAY, SEPTEMBER 28, 1960

BALLROOM

Philip K. Bondy, *New Haven, presiding*

2:30 The Dilemma of the Irregular Thyroid

(A panel discussion of the management of the thyroid nodules based on illustrative cases presented by the pathologist)

Austin L. Vickery, *Boston Massachusetts; Assistant Clinical Professor of Pathology, Harvard University Medical School; Associate Pathologist, Massachusetts General Hospital*

George Crile, Jr., *Cleveland, Ohio; Head of General Surgical Department, Cleveland Clinic*

Richard B. Cattell, *Boston, Massachusetts; Surgeon-in-Chief, New England Baptist Hospital; Chairman, Medical Administrative Board and Surgeon, New England Deaconess Hospital*

BOSTON ROOM

A. Rocke Robertson, *Torrington, presiding*

2:30 Anesthesia and Analgesia in Obstetrics—1960

Robert Andrew Hingson, *Cleveland, Ohio; Professor of Anesthesia, Western Reserve University School of Medicine; Director of Anesthesia, University Hospitals*

3:30 Newer Concepts in Toxemia of Pregnancy

Alvin J. B. Tillman, *New York City; Assistant Professor of Clinical Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons; Consultant in Obstetric Medicine, Stamford Hospital, St. Joseph's Hospital and Norwalk Hospital, Connecticut*

4:30 Adjournment

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Pathology Laboratory Notes

ROY N. BARNETT, M.D., Norwalk

Notes on Blood Transfusions

I. *Don't Add Anything to Whole Blood.*

Despite a special exhortation on our blood bottles, many physicians still add all sorts of fluids and medications to blood transfusions, through the bottle, tubing or needle. The arguments against this practice are overwhelming.

A. The additive may clot the blood, as in the case of calcium gluconate, other calcium salts, or various complex solutions such as Ringer's.

B. The fluid may hemolyze blood. Such a widely used substance as five per cent dextrose causes hemolysis in vitro.

C. If a reaction occurs after a medication is added the attendants cannot be sure whether it is due to the blood or the medicine; in any case the transfusion must be stopped, the blood wasted, and a laboratory investigation of the reaction instituted.

D. If medications are added to blood and the transfusion must be stopped for some reason, an unknown amount of the medication is not given. Furthermore the unit of blood is contaminated and the remainder cannot be used.

Every hospital should have a categorical rule against using blood transfusion bottles or sets as vehicles for any material.

II. *Blood for hemodialysis*

The disposable coil kidney is so efficient a device for removing potassium that "old" bank blood is no hazard even in patients with severe hyperkalemia. The plasma potassium of even four week old bank blood does not exceed 20 mEq, a level which can be lowered in minutes in the dialyzing bath. There are no other commonly hazardous substances in bank blood.

III. *Fibrinogen*

A rare patient, usually suffering from a complication of late pregnancy has a true fibrinogen lack. This cannot be easily restored by whole blood transfusion, for there is not enough fibrinogen in whole blood (.6 Grams in a transfusion, as compared to the one gram present in each ampoule of pure fibrinogen). Six to 10 grams are often needed for effective treatment.

IV. *Platelets*

Although platelets do disappear from blood bottles in a fairly short time, the rate is not as rapid as was once thought. In charts shown recently by Dr. Harold Allen of the Blood Grouping Laboratory in Boston, 50 per cent still survived after seven days. It is true that the most important deficiency produced by many transfusions of "old" bank blood is in platelets. For this reason it is well to include a unit of blood freshly drawn in a plastic bag after every five units of bank blood in massive transfusion therapy.

V. *"Fresh" blood*

There is no immunologic or supernatural merit in fresh blood. Because it should be drawn in a plastic bag and used within a few hours, there are all the disadvantages inherent in calling in donors and small-scale processing. The indications for its use should be very strong. They are:

A. The need for platelets, as in thrombocytopenic purpura, exchange transfusions or other massive transfusions.

B. The need for labile factor. This is most common in advanced hepatic failure.

C. The need for the longest possible red cell survival, as in aplastic anemia.

VI. *Packed red blood cells.*

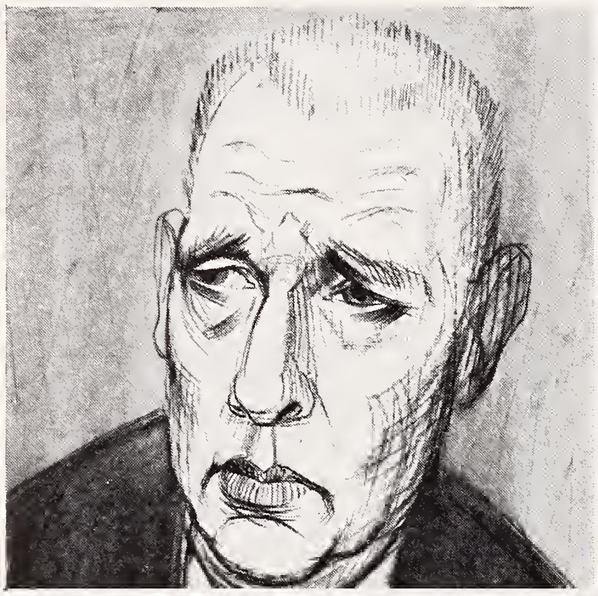
In patients with pure red blood cell destruction or loss requiring extensive replacement, packed red cells can be used without excessive fluid injection. In patients with poor cardiac reserve the circulation can be spared an extra load of fluid and salt by using only erythrocytes.

On the other hand many chronically ill patients need the serum proteins as much as they need erythrocytes. To waste the plasma in such cases is unnecessary; if the kidneys are not too bad and the blood is given slowly, over four hours or more, the full benefit of both plasma and cells can be acquired and the extra fluid excreted through the kidneys.

VII. *Bleeding during incompatible transfusions.*

A regrettably common series of events transpires thus. Mrs. X is under general anesthesia for hysterectomy. She receives a unit of incompatible blood. Because she is anesthetized there is no chest pain, no chill, no fever; the only untoward effect is uncontrolable oozing from the wound. The more she oozes the more incompatible blood she receives, and irreversible hemoglobinuric nephrosis ensues. The hazards of transfusion during anesthesia and oozing as a symptom of incompatibility should be emphasized to all surgeons.

This page is sponsored by the Connecticut Society of Pathologists to promote the best utilization of laboratory facilities and blood transfusions.



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Doctor's Office

John R. Bellobuono, M.D. announces the opening of an office for the general practice of medicine at 210 South Main Street, Middletown.

Robert W. Berry, M.D., and Joseph P. Shea, M.D., announces their association in the practice of thoracic and cardiovascular surgery at 2660 Main Street, Bridgeport.

Eugene C. Citrano, M.D. announces the opening of an office for the general practice of medicine at 502 White Plains Road, Trumbull.

Keith Custer, M.D., announces the opening of an office for the general practice of medicine at 675 Fairfield Woods Road, Fairfield.

Frank H. Dully, Jr., M.D., announces the opening of an office for the general practice of medicine at 32 Huntington Street, Huntington.

John P. Elser, M.D., announces the opening of an office for the general practice of medicine at 144 Meadow Street, Naugatuck.

George J. Feroleto, M.D., announces the opening of an office for the general practice of medicine at 2715 Main Street, Bridgeport.

Joseph J. Formica, M.D., announces the opening of an office for the practice of general surgery in association with Dr. Joseph A. Mlynarski, Dr. Andrew J. Canzonetti and Dr. George H. Bray at 43 Cedar Street, New Britain.

Joan M. Foytho, M.D., announces the opening of an office for the practice of obstetrics and gynecology at 3163 Main Street, Bridgeport.

James D. Garrity, M.D., announces the opening of an office for the general practice of medicine at Elm Street, Monroe.

Egidio Giarnella, M.D., announces the opening of an office for the practice of internal medicine at 1210 Broad Street, Hartford.

Ruben Mendoza, M.D., and Mario G. Conte, M.D., announces their association in the practice of general surgery at 1435 Chapel Street, New Haven.

Joseph J. Michalka, III, M.D., announces the opening of an office for the practice of general medicine at 2370 Park Avenue, Bridgeport.

Frederick J. O'Brien, M.D., announces the opening of an office for the practice of internal medicine at 51 Gillette Street, Hartford.

Edward A. Palomba, M.D., announces the opening of an office for the general practice of medicine at Main Street, Somers.

William A. Schear, M.D., announces the opening of three offices for the practice of obstetrics and gynecology at 40 Wethersfield Avenue, Hartford; 82 South Road, Thompsonville, and 2 Spring Street, Windsor Locks, in partnership with Dr. Ronald J. Czaja.

Patrick F. Swan, M.D., announces the opening of an office for the general practice of medicine at 1578 Ellington Road, South Windsor.

Special Notices

The Greater Bridgeport Chapter of the Connecticut Academy of General Practice Announces a Post-graduate Course in "Clinical Endocrinology"

The lectures will be given by:

Dr. Philip K. Bondy, Associate Professor of Medicine, Yale University, Editor in Chief of the Journal of Clinical Investigation and Editor of the Metabolism Section of the Yearbook of Medicine.

Dr. Walter Herrmann, Assistant Professor of Obstetrics and Gynecology, Yale University. Member of the Editorial Board of the Journal of Clinical Endocrinology.

The sessions will take place Monday evenings at 9:00 P.M. in Bridgeport Hospital, Bridgeport, Connecticut, as follows:

September	26	Diseases of the pituitary
October	3	Hypothyroidism and nontoxic goiter
	10	Graves' Disease
	17	Diseases of Calcium Metabolism
	24	Diseases of Adrenal Glands
	31	Obesity, exhaustion and nonspecific syndromes
November	7	Treatment of diabetes mellitus
	14	The endocrine work-up—clinical and laboratory
	21	Ovarian dysfunction: amenorrhea
	28	Ovarian dysfunction: hypermenorrhea
December	5	Problems of menarche and menopause
	12	The use of hormones in gynecological endocrinology

Each session will last about one hour and a half.

This course is open to all physicians. Registration fee is $25.00. Interns and Residents may register without charge. For further information write to Dr. Frank F. Northman, Secretary, Bpt. Chapter CAGP, 1884 Park Avenue, Bridgeport, Conn.

Hospital of St. Raphael Pediatric Conference

Tuesday, September 27 at 11:30 A.M.

"Recent Advances in Pediatric Hematology"

Julian B. Schorr, M.D., Assistant Professor of Pediatrics, Albert Einstein College of Medicine, New York

Book Reviews

CLINICAL MANAGEMENT OF BEHAVIOR DISORDERS IN CHILDREN by Harry Bakwin, M.D. and Ruth Morris Bakwin, M.D., Saunders Co., Philadelphia, Pa., 561 pp., 1960.

Reviewed by Melvin Lewis

The title of this book is misleading, since the content is spread over a more general field of clinical disturbances than the category of behavior disorders, and the aspect of management is not always the focus of the discussion. The book actually represents a collection of facts, theories and ideas over a wide range of clinical conditions where psychological problems are prominent. The collection is selected on the basis of the authors' viewpoint, rather than on an appraisal of a representative sampling of the available literature.

The work of Gesell et al. forms the basis for the author's concept of maturation phenomena, but unfortunately the terms maturation and development are used synonymously, thus eliminating at a single stroke the valuable concept of the psychological factors influencing development and the full emergence and maturation of innate equipment.

The description of psychological development is totally inadequate, and too often a rather superficial statement leaves one with the feeling that the important question, "What does this or that mean to the individual child and parent?" has not been asked. Such statements as "middle aged parents who have waited many years before having a child are likely to be over-affectionate, over-anxious and over-protecting" are, quite frankly, over-simplied.

Much weight is given in the ext to Orton's theory of cerebral dominance, at the expense of more modern concepts, as for example in the chapter on reading difficulties.

Although the authors have clearly made use of psychoanalytic ideas and concepts, and employ such technical terms as unconscious, fixation, regression, introjected, externalised, defense mechanisms, love object, understanding of dreams and their meanings etc., they make no acknowledgements to psychoanalysis in their index. Indeed the only two references found in the text suggest a bias through misunderstanding (or perhaps vice versa). The bias seems to manifest itself in contradictory statements. Thus on Page 58 there is a statement to the effect that there is no justification in duplicating as nearly as possible in artificial feeding, the method of holding the baby, cuddling, and so on, as is done during breast feeding. But on Page 116 the opposite statement is found, saying that infants, before they are able to eat by themselves should be held in the nurse's arms while feeding duplicating the position used during breast feeding.

Unfortunately it is precisely in the discussions on clinical management that the book fails so often. In principle any discussion on good clinical management must be based on a sound and fundamental understanding of the problem. The authors themselves state this admirably in their paragraph on management of accident proneness: "The only reasonable approach is through a study of the personality of the child and the make up of the home. The accident habit should be looked upon as a 'behavior problem.'" Where their understanding is sound the authors present much advice on management that is very helpful. But too often the authors fill the space which should be occupied by sound understanding with their fascination for curious facts and collected items of information. The regrettable result in too many instances is inadequate discussion on management, and at times advice that is frankly bad.

Thus the discussion on the management of premenstrual tension consists of 2 sentences: "An effort should be made to remove the sources of emotional disturbances. Meprobamate is useful." Another example of the inadequate discussion of management is in the section on so-called early infantile autism. After a 5 page account of the symptoms, diagnosis, etiology and prognosis, the very difficult practical problems involved in the clinical management of these children and their families is again dismissed in two sentences.

Inexcusably bad advice for the pediatrician is the unqualified statement regarding the clinical management of the stutterer. The authors baldly state that "the therapist, after giving these assurances [that most people are tolerant towards this problem and the others should be ignored], may deliberately laugh at the stutterer and show impatience in order to toughen him and inhibit his old response." Pediatricians who seek understanding and help in their management of those clinical disturbances with psychological problems which constitute so much of pediatric practice today will be disappointed in this book.

ANATOMY—A Regional Study of Human Structure by Ernest Gardner, M.D., Donald Gray, Ph.D., and Ronan O'Rahilly, M.D., W. B. Saunders Company, Philadelphia, Pa., 999 pp. $15.00.

Reviewed by Denis S. O'Connor

This important publication might appropriately be called "Functional Anatomy" or "Dynamic Anatomy" and seems destined to become one of the basic textbooks in our medical schools and to be the principal reference book on the subject in the practitioner's library.

While descriptive, or systematic, anatomy might be desirable in the student's first approach, the relationship of important structures to each other—so important to the surgeon—is mastered only by special study or by actual dissection at the operating table.

A clear knowledge of the important structures in any surgical field should be one of the first accomplishments of the young surgeon.

The development and growth of anatomical structures, as well as their functioning, is helpful to the surgeon.

One has come to depend so much on multicoloring in medical illustration that it is surprising to find such clarity in the line drawings with which this volume is so profusely illustrated.

In this day when the roentgenogram is such an important diagnostic element, the use of roentgenographic illustration should do much to enable the surgeon to interpret his films in relation to his clinical findings. The roentgenologist can only describe what he sees in the film but the clinician must interpret what he sees in relation to his examination.

The copious references in close relation to the matter under consideration is a helpful aid to the student or studious surgeon.

SMOKING AND HEALTH by Alton Ochsner, M.D., Julian Messner, Inc., New York, 108 pp. $3.00.

Reviewed by Louis H. Nahum

The author is a nationally known surgeon who operates upon hundreds of patients with lung cancer every year. He quotes the statistics on the relation between smoking and disease. He shows conclusively that 95% of the 30,000 men and women who will die from lung cancer this year will be smokers. And of the thousands with lung cancer who will be brought to surgery, two out of three of the victims will be beyond the stage of surgical cure.

The statistical tables show conclusively that the death rate from all causes was 58% greater among smokers than among nonsmokers. Among heavy smokers, the death rate was almost twice that of nonsmokers. The logical corollary of this striking finding is that smoking affects adversely health in general, not merely the health of the lungs and air passages. This is illustrated by the further figures on the relation of smoking to heart disease. Coronary heart disease for example was found to be 63% higher among regular smokers than nonsmokers. In the present state of our knowledge one can only speculate as to the reason why smoking exercises such an adverse effect on the heart. Smoking seriously prejudices the outcome of other diseases like bronchitis, cirrhosis of the liver, ulcers of the stomach and duodenum, cancer of the prostate, cancer of the esophagus. The author goes on—

"True if you are a heavy smoker you may not die of cancer. You may die of heart disease. Or a circulatory ailment. Or cerebral hemorrhage. Or intestinal disorder. Or you may go blind with nicotine amblyopia." Certainly you will lose most of your sense of taste and smell. You will be progressively more nervous and irritable. Your digestion will be bad. You will be troubled by one or more of such respiratory diseases as Smoker's Cough, Smoker's Throat, Smoker's Larynx, Smoker's Pharynx, Smoker's Asthma—familiar ailments directly traceable to smoking. There are even indications that if you are a man you may become impotent; if a woman, sterile. A pregnant woman may give birth prematurely, perhaps even lose her child. This is the Smoker's choice."

What to do about this? The British Minister of Health has commented "Adults can help younger people by their own example, by not encouraging them to feel that to smoke is to be grown up" more generally too they can help to make clear that some control or restraint is not the same as submission to external authority, but represents something positive that comes from Wisdom."

Sir Ernest Kennaway has suggested "The advocacy of nonsmoking among school children who have not yet begun to smoke is suggested as a precaution to cancer of the lung, and if the abolition of smoking is desired, this is the most effective method." There is only one defense against the dangers of smoking—stop smoking.

The last chapter is devoted to "You Can quit—You must quit." He gives 10 rules to follow that every physician should give to his patients. But before he can give them he must know them himself. There is no doubt that this is a book of life-and-death urgency for all smokers by one of the world's leading cancer specialists. It should be in every home of this country and in every doctor's office for distribution to his patients, in every school over the length and breadth of this land.

THE KANSAS DOCTOR: A CENTURY OF PIONEERING by Thomas N. Bonner, M.D., University of Kansas Press, Lawrence, Kansas, May 1959, $5.00.

Reviewed by Grover F. Powers

This book by Thomas N. Bonner is well written, interesting and instructive; it is sponsored by a Joint Committee on medical history with representatives from the Kansas Medical Society and the University of Kansas. The book illustrates a very effective method of teaching the history of medicine—the detailed consideration of a special segment. A student may have little interest in any aspect of the history of the state of Kansas but perusal of his book will give him a vivid picture of much that has taken place in most phases of Medicine in the U.S.A. during the past century.

Certain points deserve special emphasis.

The strenuous efforts are described of scientifically oriented physicians to organize a state medical society, a state board of health, a university medical school; also to raise standards of medical education and licensure. All of this required regulation or elimination of cults and quacks, of proprietary medical schools and certain hospitals and the control as adequately as possible contagious diseases and merciless infant and maternal mortality. Successful results were obtained but not without acrimonious contentions with strong political forces both professional and governmental.

It is well recognized that in the field of public health both physical and mental, Kansas has been in the forefront of the states. As always in such successful matters there has been effective and imaginative leadership in which many distinguished persons in medicine and politics are involved. But special mention is richly deserved by Samuel J. Crumbine (for 19 years militant secretary of the State Board of Health) and the Menningers, father and sons, who have been outstanding contributors in many ways to research, prevention and treatment of mental illness.

The medical profession of Kansas has a rich heritage in many areas notably in public health and cooperative action between organizational professional groups and those associated with educational institutions. From this liaison have developed valuable new programs in research, rural medicine and postgraduate education.

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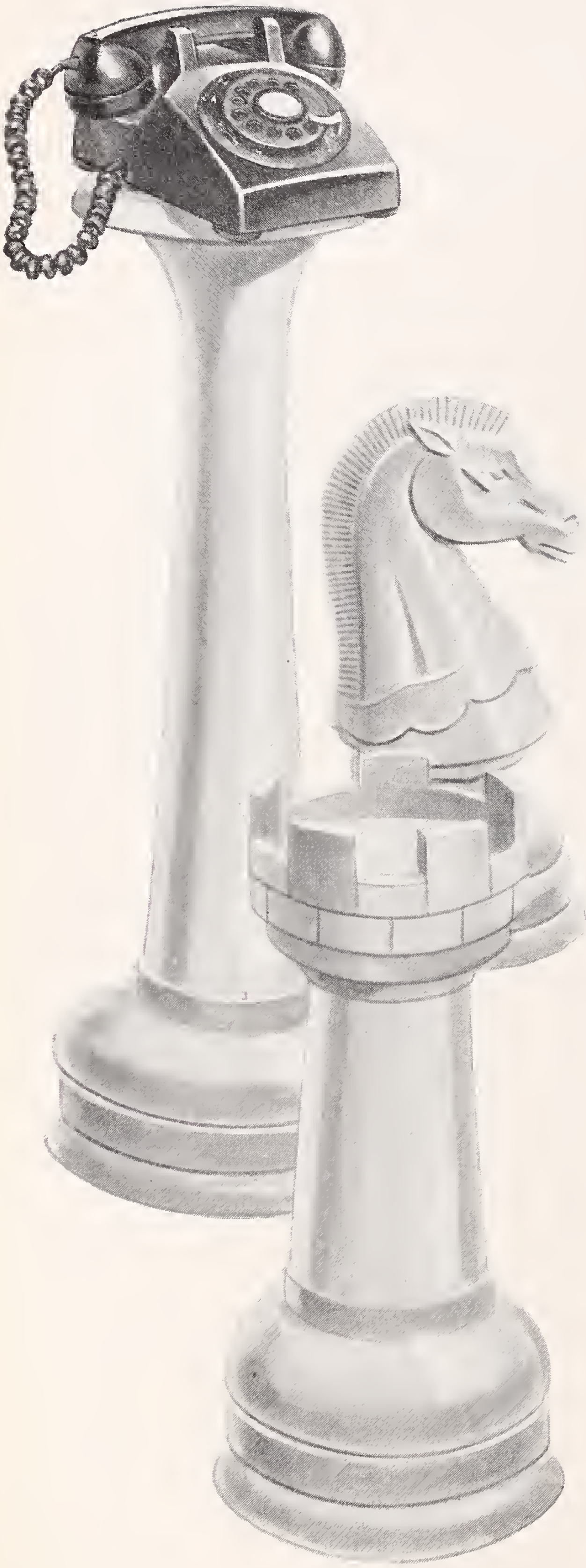

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Obituaries

John F. Fulton
1899 - 1960

John F. Fulton, M.D., died suddenly at his home in Hamden, Connecticut on May 29, 1960. Born on November 1, 1899 in St. Paul, Minnesota, he was educated in the public schools there and had one year at the University of Minnesota before entering Harvard College from which he was graduated magna cum laude in 1921. After four years as a Rhodes Scholar and Christopher Welch Scholar at Oxford University (B.A., M.A., D.Phil.) under Sir Charles Sherrington, he returned to Harvard and received his medical degree in 1927, again magna cum laude. A year as neurological assistant to Harvey Cushing and two more as a Fellow of Magdalen College, Oxford, preceded his arrival at Yale in 1930 as Sterling Professor of Physiology.

In the next twenty-one crowded years he and his staff and students, from far and near, systematically elucidated the functions of the nervous system-work which led to the operation of frontal lobotomy among other advances. The results of his researches, aimed always at placing neurophysiological knowledge at the service of clinical medicine, were embodied in two classic textbooks—*Physiology of the Nervous System* (1938; now in its 3d edition and translated into six languages) and *Howell's Textbook of Physiology*, of which he became editor with the 15th edition in 1946.

Many of his 440 papers and books dealt with the history of medicine, a lifelong interest, and in 1951 he relinquished his chair in physiology to become Sterling Professor of the History of Medicine. This past year his department was expanded to include the history of science, a graduate program established, and instruction extended to undergraduates as well.

Although eminent as a neurophysiologist, John Fulton may well be longest remembered as a humanist whose learning bridged several fields, as a book collector, and founder, with Harvey Cushing and Arnold C. Klebs, of the Historical Library, one of the most distinguished medical-historical libraries in the country. He will also be remembered as one of the most colorful, generous, warmhearted, and beloved of men with friends all over the world who count his loss a personal one.

In 1923 he married Lucia P. Wheatland who has played a large role in his success and stood beside him in offering hospitality, encouragement, inspiration, and loyal support to a long succession of young people. These people, many occupying chairs of physiology of their own, now count it a privilege to pass on something of this rare spirit to another generation.

Elizabeth H. Thomson

Arthur Alberdo Chase, M.D.
1879 - 1960

Dr. Arthur Alberdo Chase died at his home in Plainfield on June 11, 1960, in his eighty-first year. He was born in Woburn, Massachusetts, October 12, 1879, the son of Alberdo W. and Mary H.

Somes Chase. He graduated from Harvard Medical School in 1901, and in November of the same year he established his office as a general practitioner in Plainfield.

In 1902 he was appointed health officer for the Town of Plainfield serving in this capacity for 58 years. He also served the Townships of Brooklyn and Killingly as health officer for many years and in 1929 was named medical examiner for the towns of Plainfield, Canterbury and Sterling, all of these offices being held until his death.

Interested in civic as well as professional responsibilities, Dr. Chase served as chairman of the Plainfield Board of Finance for twenty-five years, on the Board of Education for eight years, and on the Fire District Committee in Plainfield Village for a long period. He was an honorary member of the Plainfield Rotary Club and held membership in the Sphinx Temple in Hartford.

On May 16, 1951 the people of the Town of Plainfield honored their beloved doctor with a widely attended testimonial planned by fourteen organizations in the town, at which he was presented a purse of nearly $500. and a gold plaque. In 1953 he was honored by the Connecticut State Medical Society when he was presented his pin for having completed fifty years of medical practice in our state. Again in 1957 he and all other doctors from the State having fifty or more years of service were honored at a dinner in Hartford.

Dr. Chase was an ardent sportsman, a devotee of Izaak Walton, a hunter, and an amateur horticulturist. A typical "war horse" he refused to relinquish his practice and his activities in vaccination clinics, although already ill, until but a few days prior to his death.

A familiar figure to all in his community, after having administered to at least some member of nearly every family in the township, Dr. Chase will be sadly missed by all who knew him.

John A. Woodworth, M.D.

In Memoriam

Dilorenzo, Albert T.—Waterbury; Georgetown University School of Medicine, 1941; practiced medicine and surgery in Waterbury for 11 years; a member of the medical staffs at St. Mary's Hospital and Waterbury Hospital; served as a captain in the medical corps during World War II; died suddenly of a heart attack at his home July 13, aged 44 years.

McLarney, Thomas J.—Waterbury; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1897; Dr. McLarney practiced medicine for 63 years, of which 45 years were spent in Waterbury; he was cited for his active membership in the Connecticut State Medical Society for more than 50 years and was a member of the physician group which helped establish St. Mary's Hospital, Waterbury, in 1909; interested in dermatology, he gave up his general practice in 1920 and pursued postgraduate work in that specialty in New York; upon his return to Waterbury, he established a practice in dermatology and was active in that field until his retirement in the 1940's; died July 27, at the age of 84 years.

Olmsted, John G. M.—Hartford; McGill University Faculty of Medicine, 1925; born and educated in Canada, Dr. Olmsted served a residency in pediatrics in London, also at Johns Hopkins University Medical School, and at the Children's Memorial Hospital, Chicago; he also spent eight months touring pediatric clinics throughout the world prior to coming to Hartford in 1929; semiretired for the past several years because of ill health, he died at his home July 10, aged 59 years.

Schmidt, Norman L.—Stamford; Vanderbilt University School of Medicine, 1927; having served in cancer research at Yale University for several years, Dr. Schmidt was himself a victim of the disease; he recorded his own symptoms and treatment as a contribution to the research project; practiced urology and surgery in Stamford and New York for 17 years; a veteran of World War I, he served in the Navy during the second World War and attained the rank of commander; died at the U.S. Veterans Hospital, Newington, July 20, at the age of 63 years.

Wallace, Victor G. H.—Farmington; University of Edinburgh Faculty of Medicine, 1926; following graduation from medical school, Dr. Wallace pursued postgraduate training until 1930 at the Royal Infirmary and Simpson Maternity Hospital in Edinburgh and Woman's Hospital in New York City; he held fellowships in the Royal College of Surgeons, Edinburgh, and the American College of Surgeons; engaged in the private practice of medicine in Norwalk from 1931 to 1942; a veteran of World War II, he was discharged in the rank of lieutenant-colonel; he was named medical director for the State Welfare Department in 1949 and subsequently resigned to accept appointment as the first director of the Connecticut Regional Blood Program, American Red Cross, and recently gave up that post because of ill health; he died in Tours, France, July 24, while on an European tour, aged 63 years.

The Diagnosis of SCHISTOSOMIASIS JAPONICA

By the Use of a Transparency Rectal Biopsy Technique

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A recent editorial in this journal (June 1959) which reported the presence of schistosomiasis in Puerto Rican patients hospitalized at Uncas-on-the-Thames in Norwich, clearly demonstrates that schistosomiasis can no longer be considered an exotic tropical disease.

Its presence here in Connecticut and along the eastern U. S. seaboard is due to the post-war influx of immigrant workers from Puerto Rico and other West Indian islands. These people contracted their disease in endemic areas of previous residence and have brought their disease here with them.

Many Americans are now taking Caribbean vacations and are being exposed to schistosomal infections in various islands known to be endemic areas for Schistosomiasis mansoni in the West Indies.

In addition many U. S. service men saw action during World War II in known endemic areas of schistosomiasis throughout the world, notably in Africa, China, Japan and the Philippines. Many contracted schistosomiasis then and have returned home with their infection. Some of these cases have been picked up during the course of government sponsored surveys which have been made of personnel exposed to infection, but many no doubt have been missed during these stool surveys and are still undiagnosed and in need of treatment.

It is apparent, therefore, that schistosomiasis should be kept in mind when medical history reveals sojourn in endemic areas.

Since the disease is a chronic progressive one and leads to irreversible pathological changes, early diagnosis and early treatment are obviously essential.

Not many physicians in this area are aware of the disease or the various diagnostic methods which are available for its diagnosis. It is to fulfill this need that this paper is written. It will review schistosomiasis, report an especially valuable diagnostic tool—the transparency rectal biopsy technique—and report a case of Schistosomiasis japonica, in a World War II veteran, in whom this technique was used for diagnosis.

The schistosomes belong to the family of blood flukes and are among the most important helminth parasites infecting man. Three species are known to live in man, S. mansoni, S. haematobium and S. japonica in the small intestine and colon, and posit ova in the blood vessels draining the colon, S. japonica is the small intestine and colon, and S. haematobium in the colon and venous plexuses of the urinary bladder. Because of the marked similarities between the three species, they are usually considered together.

Schistosomiasis mansoni is found in Africa, South America (Brazil, Venezuela and Dutch Guinea) and the West Indies (Puerto Rico, Vieques, St. Kitts, St. Martin, Nevis, Montserrat, Martinique, Guadaloupe and the Dominican Republic.)

S. haematobium is present in Africa, in Europe (Portugal, Greece and Cyprus) and Asia (Palestine, Syria, Iraq, Arabia and Mesopotamia.)

S. japonica is present in Asia (China, Japan, Formosa, the Philippines and the Celebes.)

The adult S. japonica male measures 12 to 20 mm. in length, the female 25 mm. The male appears cylindrical in shape because the sides of its flat body are folded over to form a ventral groove in which the slender female worm rests during oviposition. Both male and female worms have oral and ventral suckers which are used for feeding and for attachment to vascular walls respectively. The uterus of the female consists of a long straight tube which contains as many as 50 ova at one time. Experimentally[1], the female S. japonica adult has been found to lay as many as 3500 ova per day as compared to 300 ova per day laid by S. mansoni.

The eggs laid by the females of all three schistosomal species are nonoperculate and have a spine which may be lateral (S. mansoni), terminal (S. haematobium) or rudimentary (S. japonica). Vogel[2] and Maldonado[3] have reported that schistosome ova are probably viable for about three weeks after deposition. The miracidium within the ovum requires about nine days for maturation and is viable for approximately another two weeks after reaching maturity.

S. japonica infects man, dogs, cats, cattle, horses, pigs, goats, sheep and field mice. The normal Schistosomiasis japonica ova, whether found in feces or tissues, are oval in shape, transparent, and have a smooth refractile golden shell with a rudimentary lateral spine near one end. The ova are excreted only in the feces and measure between 70-90μ x 50-60μ. When water is added, the mature eggs hatch releasing the enclosed miracidium. If the hatched miracidium finds the appropriate snail, Oncomelania nosophora (in Japan and along the China coast); or Oncomelania quadrasi (in the Philippine Islands) it penetrates the soft tissues of the snail. The snails live in fresh water which usually contains aquatic vegetation. They also often inhabit slow moving streams, rice paddies, irrigation ditches, reservoirs and small pools.

In five to seven weeks, the miracidium undergoes developmental changes within the snail and develops into forked tail cercariae. In structure the cercariae of Schistosoma japonica are also identical with those of S. mansoni or S. haematobium. The cercariae which emerge from the infected snail, enter the water and infect humans or animals by penetration of the skin. Thus the disease is usually contracted while bathing, wading, working, etc. in infected water, although it is also believed infection may occur by drinking contaminated water. On contact with the skin of a man or mammal, the cercariae lose their forked tails, penetrate into the skin capillaries and enter the venous circulation to be carried to the right heart and lungs to the pulmonary capillaries. They then enter the left heart and the systemic circulation to reach the liver where they grow. Upon maturity they migrate into the venules of the superior and inferior mesenteric veins. Here, within five weeks they mate and the females start depositing ova.

Johnson and Berry[4] found by rectal biopsy that S. japonica ova are shed into the rectal tissues even in early and presumably light infections. This would indicate, therefore, that the adult S. japonica worms are ovipositing in the radicles of the lower branches of the inferior mesenteric veins as well as in the superior mesenteric vessels as reported by Faust. Other studies using the rectal biopsy technique show that all three schistosome species regularly oviposit in the branches of the inferior mesenteric veins of humans. S. mansoni and S. japonica adults, however, show a predilection for the mesenteric veins, S. haematobium for the mesenteric veins and vesical plexus.

During the period of cercarial circulation there is often an acute clinical syndrome characterized by visceral and cutaneous hemorrhages, urticaria, asthma, transient pulmonary infiltrations and eosinophilia. When ova are being deposited in the tissues, symptoms may occur; usually diarrhea in S. mansoni and S. japonica infections, and hematuria in S. haematobium. In general, the deposition of ova rather than the intravascular presence of the adult worms accounts for the great majority of clinical symptoms and the pathological lesions. The severity of these usually depends on the number of ova being deposited in the tissues. S. japonica is usually the most severe disease as the daily output of ova is much greater than that for Schistosoma mansoni or Schistosoma haematobium. In the late stages of Schistosoma japonica infection the lesions are most prominent in the intestinal tract where granulomas and polyps may occur. In late infections with S. mansoni on the other hand, the intestinal symptoms are not as prominent as the hepatic lesions. In severe advanced cases of S. mansoni, the liver may be grossly and microscopically scarred, presenting the so-called "pipe stem cirrhosis"[5]. This is due to the presence of pseudo tubercles and fibrotic scars around S. mansoni ova. In S. haematobium infections on the other hand, hemorrhagic cystitis with vesical polyps and fistula formations are common.

When ova are deposited near the surface they are frequently discharged through the feces (all three schistosome species), or urine (S. haematobium). If they are deposited deeper in the tissues the ova acts as a foreign body and produces an inflammatory response characterized by mononuclear, polymorphonuclear and eosinophile cells. The ovum is currently believed to cause a proliferation of endothelium around it which separates it from the vascular lumen. This is accompanied by perioval endothelial proliferation, and infiltration with mononuclear cells, polymorphonuclears and eosinophiles. This lesion is then followed by the formation of granulation tissue and ultimately becomes a pseudo tubercle. Foreign body giant cells are frequently seen near the granulomatous nodule. Fibrosis advances and a circumscribed pseudo tubercle is formed. Leukocytes may persist in this stage but eventually disappear. Eventual absorption of the egg shell by the host may also occur, leaving behind only a scar to mark the place where an ovum has been present.

Pseudo tubercle formation in the liver and colon is common[5]. Enlargement of the spleen is also seen in far advanced cases of Schistosomiasis mansoni. This splenic enlargement is not due to ova deposition but to increase in connective tissue similar to that seen in Banti's syndrome; it is believed to be related to the degree of hepatic fibrosis. Clinically, these patients have fibrotic livers, huge enlarged spleens, ascites, telangiectases, caput medusae, and anemia, leukopenia, and thrombocytopenia. Death usually results from hemorrhage due to ruptured esophageal varices. Ova are regularly found in the liver and occasionally may be found in the lung and brain in all three types of schistosomal infection.

The live adult schistosomes, however, usually cause no striking clinical or pathologic findings. They are believed to live for years as the case to be reported will later demonstrate, but the exact length of their life and ovipositing abilities is not yet definitely known in humans. The presence of pigment granules, morphologically identical with malarial pigment in the liver and spleen is evidence of the presence of adult worms; this pigment is the residue of metabolized red cells ingested by the worms.

Occasionally the presence of adult worms in a vessel (usually when they are dead) causes a nodular proliferation of the intima of the vessel which may partially or wholly occlude the lumen with the dead worm enclosed within it.

If the adults should reach the pulmonary arteries as they sometimes do, they may produce emboli of ova, around which pseudo tubercles form. A severe arteritis may also occur. This is accompanied by leukocytic and eosinophilic infiltrations, and frequently with aneurysmal dilatation of the vessel wall. Surrounding focal areas of pneumonitis may also be present.

It is apparent, therefore, that since pathological and clinical symptoms are primarily caused by reaction to schistosome ova, early diagnosis and treatment is essential if irreversible pathological changes are to be avoided.

There are several diagnostic techniques available to the physician to aid him in making a diagnosis of schistosomiasis. Those most commonly used are stool examination for ova, skin tests, circumoval precipitation tests, and rectal biopsy.

The oldest, most widely used, and perhaps the most unreliable in chronic cases of schistosomiasis, is that of stool examination for schistosome ova. It has been found that in endemic areas, where schistosomiasis is prevalent, lower figures than those expected are often obtained if the presence of the disease is evaluated by stool examinations. This is no doubt due to the fact that patients in these areas have chronic schistosomiasis and at this stage of the disease elimination of the eggs in the feces is not frequently found. Despite this, various modifications of routine stool examinations for schistosoma ova have been introduced and used with varying degrees of success. Those frequently employed are: (1) the sedimentation concentration method[13], (2) the simplified zinc sulphate levitation method[14], and (3) the improved acid ether method[15]

The intradermal response to Schistosoma mansoni ova antigen in humans with active, untreated, and treated Schistosomiasis mansoni infections was reported by Oliver-Gonzalez[16] of Puerto Rico in 1954. He found that in active untreated Schistosoma infections, the skin test (using antigen derived from Schistosoma mansoni ova) gave negative results. However, 79% of these skin tests later became positive 183 days after completion of treatment with Fuadin. When antigen prepared from S. mansoni adult worms and cercariae were used, however, 93% of the skin tests were positive before as well as after treatment.

A comparison of the results of stool examinations and intradermal skin tests was made by Pellegrino[17], who did his work in an endemic area for S. mansoni in Brazil. For the skin tests, he used a 1:1000 concentration of antigen made from Schistosoma mansoni cercariae and adult worms, and for the stool examinations, the Hoffman sedimentation technique. In children, he found that a single fecal examination gave a 65% positive result as compared with a 57.6% positive result using the cercarial skin test, and a 55% positive result when adult Schistosome antigen was used for the skin test. However, in adults with chronic schistosomiasis, the skin test gave better results than the stool examination. In these cases, ova were found in the stools in 24% of the patients as compared with the 53% positive cercarial skin tests and 51% positive adult schistosome antigen skin test. The conclusion, therefore, was that stool examinations for schistosome ova gave better results than the skin tests in children but that in adults the skin test using cercarial or adult schistosome antigens gave better results.

The next diagnostic tool was made available in 1955, when Oliver-Gonzalez et al[18] reported the use of serological reactions against ova antigen as an aid in the evaluation of treatment in Schistosomiasis mansoni. It was found that serum from patients with known S. mansoni infections produced a heavy circumoval precipitate when it was incubated with live S. mansoni ova. Following treatment with antimony, however, 87% of these previously positive circumoval precipitate tests became negative. It was concluded, therefore, that a negative circumoval precipitate test with a positive skin reaction indicated inactive treated schistosome infection.

Another useful diagnostic tool was introduced by Ottolina and Atencion of Venezuela[19], who reported upon the use of a rectal biopsy technique. This consisted of removing rectal mucosal tissue by biopsy from the middle valve of Houston, incubating it, and digesting it with caustic potash, and then centrifuging the specimen and examining the sediment for Schistosomiasis mansoni ova.

A simplified transparency rectal biopsy technique was later introduced by Hérnandez-Morales and Maldonado of Puerto Rico[20]. A thin piece of rectal tissue was removed from the first rectal value of Houston on proctosigmoidoscopy, and compressed between two microscope slides, and then examined under the low power of the microscope. This technique made possible the counting of the number of ova present in the tissue, as well as the determination of the viability of the ova. Hérnandez-Morales commented that the ova in the rectal tissue were oval in shape, golden yellow in color, and contained miracidiae, which if viable, could be seen to demonstrate respiratory movement under the high power of microscope. He also noted that dead or dying ova were often dark, shrunken, and the miracidiae within them were often not recognizable as such. In untreated cases, the rectal biopsy was found to be 100% effective as compared with the ether concentration fecal examination which gave only 40% positives, and the intradermal skin test which gave 62% positive results in the same patients. This transparency method had the advantage of being simple and since the viability of the ova could be determined it was useful in establishing the advisability of further treatment on a sound parasitological basis.

Since that time, several papers have been published comparing the results obtained by rectal biopsy with other methods of diagnosis. Rincon-Urdaneta[21] compared the rectal biopsy technique with stool examinations and intradermal tests using antigen prepared with adult S. mansoni worms. He found that in 67 cases where these methods were used, stool examination gave 8% positive results, rectal biopsy 49% positive results, and intradermal tests 58% positive results, but there were occasional false positive and false negative results with the skin tests. The efficacy of this technique was again confirmed by Badran et al. in Egypt[22], who used it for the diagnosis of Schistosomiasis haematobium as well as Schistosomiasis mansoni infections. In Schistosomiasis haematobium they found 60% positives by direct examination of the urine for ova, as compared with 82% positives by rectal biopsy.

The transparency technique as now used consists of proctosigmoidoscopy following a prior intestinal cleansing. The latter is accomplished by the ingestion of an oral saline laxative the night before. This is followed by repeated cleansing plain warm water enemas until results are clear water the morning of examination. During proctosigmoidoscopy a thin superficial biopsy is taken of the polyps or granulations that may be present. If no gross pathological lesions are seen, routine biopsy is usually taken from one of the three Houston valves. Since the high power of the microscope will have to be used to detect respiratory movements of any miracidia present, the biopsy specimen must be thin. The tissue is placed between two microscope slides, the two edges of the slides are bound together with scotch tape, and the slides are then examined directly under the low power of the microscope. Ova are usually seen in the mucosa and submucosa. They may be single but are frequently present in small nests or clusters. The viable ova are oval in shape, turgid, golden in color, and have a shiny refractile shell. The spine is terminal, lateral or rudimentary depending upon the schistosomal species. If the ovum is viable, a well-outlined miracidium will be seen occupying almost the entire cavity of the shell. Its inner structure is clearly visible. Respiratory movements of the miracidium, which indicate viability, can be seen by using the high power of the microscrope. Death of a miracidium is indicated by deformities in shape, vacuolization, and absence of flame cells. Dead ova are often present as small, shrunken, deformed shells, frequently grey or black in color. Miracidia are usually not identifiable as such and if present will show vacuolization, granulation, discoloration, and no movement. Calcifications may be seen around ova that have been dead a long time.

The presence of ova containing viable miracidia signifies active persistent infection and indicates the necessity of further schistosomal treatment. The action of schistosome drugs may be twofold. (1) It may sterilize the adult female worm either temporarily or permanently, or (2) It may cause the death of the adult worm. When treatment has not been effective, the schistosome adult females may recover their egg laying capacities and eggs will appear once again in the feces following the end of treatment. The presence or absence of live ova, therefore, can be used to determine the effectiveness of therapy. The examination for the presence of fresh viable ova in rectal biopsy tissue should be continued at least for one year following completion of treatment. In endemic areas one must remember to keep the possibility of reinfection in mind when viable ova reappear.

The following case is reported to illustrate the helpfulness of the transparencey rectal biopsy technique in making a diagnosis of active Schistosomiasis japonica in an American service man who had contracted his disease 15 years previously in the Philippine Islands, during World War II.

Case History

This forty-two year old World War II veteran participated in the invasion of Bataan and was captured by the Japanese and held as a prisoner-of-war for 41 months. During this period of time he was a slave laborer, employed in building roads in the jungles in the Philippine Islands. He was confined to various prison camps, among them those in Davao and Mindanao—the latter a known endemic area for schistosomiasis. While a prisoner, he contracted amebic dysentery, pellagra, typhoid, beriberi and dengue for which he was treated after liberation. Schistosomiasis was not diagnosed at that time.

In November 1950, during a survey study, his stool was examined and S. japonica ova were found. History taken at that time revealed that the patient was asymptomatic and had no gastro-intestinal symptoms. Physical examination then was negative except for the presence of prisoner-of-war scars on the coccyx, the forearms and the palms of the hands. Laboratory work revealed a white blood count of 6700 with 57% neutrophils, 33% lymphocytes, 2% monocytes, 3% eosinophils, 5% basophils; hemoglobin was 11 grams. Urinalysis was negative. Total serum protein was 7.4 with 4.3/3.1 ratio. NPN was 37, fasting blood sugar was 98. Bleeding time was 1 minute 35 seconds, coagulation time 5 minutes 40 seconds. Chest x-ray was negative. Complement fixation tests for amebiasis and schistosomiasis were negative. Stool examinations for parasites and ova were also reported as negative.

On April 6, 1951, the patient was hospitalized for further study. He had continued to be asymptomatic. Physical examination again revealed no abnormalities. White blood count was 6700 with a normal differential and 3% eosinophiles. Urinalysis was negative. Total serum protein was 7.4 with a 4.3/3.1 ratio. A bromsulphthalein test showed 2% dye retention in 45 minutes. Cephalin flocculation test was negative. The prothrombin time was 92%, serum bilirubin was 1.1, thymol turbidity was .6, alkaline phosphatase was 5.8 Bodansky units. A Complement fixation test for amebiasis and schistosomiasis was again negative. G.I. Series and a barium enema revealed no abnormalities. Liver biopsy revealed the presence of S. japonica ova. A routine rectal biopsy was also done but was reported as negative. Stool examinations were negative for schistosoma ova, but Endamoeba histolytica, Trichuris and Endamoeba nana were found. The amebiasis was subsequently treated and cured with Chloroquine and Diodoquine. On April 27th, 1951, the patient received his first course of tartar emetic intravenously for a total dose of 404 cc. During the course of therapy he developed generalized aching of the muscles and severe headache.

The patient was reevaluated the following year. Proctoscopy was again reported as negative. Liver function studies showed a bromsulphthalein retention of 2.5%, a negative cephalin flocculation test, a thymol turbidity of .2, alkaline phosphatase 8 Bodansky units, prothrombin 92%, cholesterol ester ratio 133. Stool examination revealed Trichuris and Ascaris for which the patient received Hexylresorcinol and Tetrachlorethylene. A repeat liver biopsy again revealed S. japonica ova.

Another rectal biopsy the following year, 1953, was again reported as negative. Repeat liver biopsy showed 2 ova of S. japonica on microscopic section. Laboratory studies done at that time revealed a white blood count of 10,600 with normal differential and 1 eosinophile. The total serum protein was 6.6 with a 3.9/2.7 albumin globulin ratio. Cholesterol was 263. The Complement fixation tests for S. japonica and amebiasis were again negative. Two stool examinations for S. japonica were also negative. Following this evaluation, the patient received Fuadin in divided doses for a total dose of 104 cc.

In March of 1954, the patient was rehospitalized. An electrocardiogram done at that time was reported as normal. A repeat liver biopsy again revealed S. japonica ova. He was given a second course of tartar emetic and developed severe arthritis, nausea, vomiting, and a systolic heart murmur during therapy. On October 8, 1954, the liver biopsy was repeated and was reported as being negative. The liver was palpable one fingerbreadth below the right costal margin at that time. Liver function studies at this time showed a bromsulphthalein retention of 6% in 45 minutes, an alkaline phosphatase of 4.5, and a normal prothrombin time. White blood count was 6500 with normal differential with 2% eosinophiles. The total eosinophile count was 33 per cubic millimeter. A barium swallow was negative for varices.

Five years later, in April 1959, the patient was seen in the Tropical Disease Clinic. He stated that his appetite was excellent and that he had no food intolerances. His bowel movements were regular. He denied diarrhea or constipation. Physical examination revealed a well-nourished, well-developed male, who did not appear acutely or chronically ill. No abnormalities were found on physical examination. The liver and the spleen edges were not palpable below the costal margins and were not tender to heavy percussion. There were no dilated superficial thoracic or abdominal vessels, no spider hemangiomata or telangiectases. The patient had a few hemorrhoidal tags. There was no clubbing of the fingers. There was no icterus of skin or sclerae.

Laboratory work revealed a total serum protein of 7.9 with an albumin globulin ratio of 4.6/3.3. Thymol turbidity was 1.9 units, bromsulphthalein

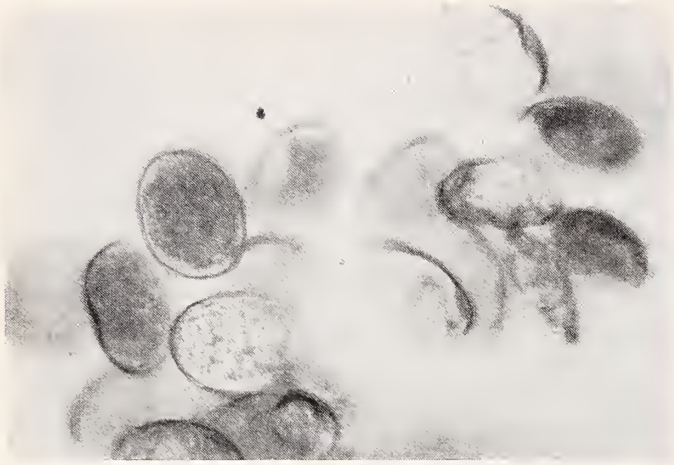

Figure I
Cluster of S. japonica ova in rectal biopsy tissue (x135).

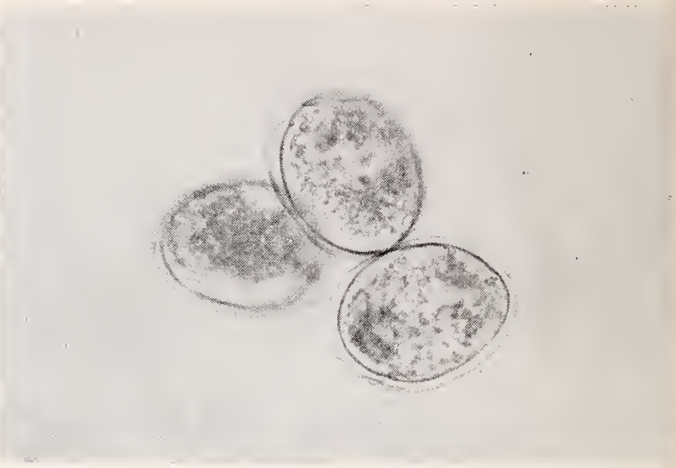

Figure II
S. japonica ova from same specimen under higher magnification (x270).

revealed 6% dye retention in 45 minutes. NPN was 38, calcium was 10.9, cholesterol was 300 mg., fasting blood glucose 121 mg.%. Barium enema, barium swallow and chest x-ray revealed no abnormalities. A proctosigmoidoscopy with rectal biopsy was carried out on May 1, 1959. Numerous small sessile polyps measuring 1 mm. to 2 mm. in main diameter were found studding the rectal mucosal wall starting at the 1st valve of Houston on up. These were covered with a normal appearing pink mucosa. The intervening mucosal wall between polyps was normal in appearance. Several superficial biopsies were taken from these polyps and all revealed small and large clusters of well-preserved viable S. japonica ova on direct microscopic examination. See Figures 1 and 2.

This man is known to have contracted his Schistosomiasis japonica 15 years previously in an endemic area for this disease. Since his return to the States, he had remained asymptomatic and physical examination had never revealed any findings to suggest persistence of schistosomal infection. Repeated stool examinations for ova and Complement fixation tests for schistosomiasis done during the preceding 10 years had all been negative.

The transparency rectal biopsy technique, however, revealed the presence of viable S. japonica ova, which signified persistence of continuous active infection. It also indicated the inadequacy of prior therapy which consisted of two courses of intravenous tartar emetic and one course of Fuadin and illustrates the well-known fact that Schistosomiasis japonica infection is very difficult to eradicate as compared with Schistosomiasis mansoni infection. The latter can usually be terminated with a course of 100 cc. of Fuadin[7]. This man is currently receiving another course of antimonial therapy in an attempt to arrest his active schistosomal infection. Without the aid of the transparency rectal biopsy his infection would have continued and resulted in further irreversible tissue destruction.

* * *

I wish to extend my appreciation to Mr. Bruce Stuart of the Newington Veterans Administration Hospital, who made the photographs for this article.

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PRIMARY ADENOCARCINOMA OF THE SMALL INTESTINE[*]

Report of Three Cases and Review of the Literature

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Primary adenocarcinoma of the small intestine, although uncommon, has received increasing attention in recent years, due largely to improved diagnostic methods and a renewed interest in the subject. It is the purpose of this paper to report three cases of primary adenocarcinoma of the small intestine collected from the records of the Hospital of St. Raphael for the twenty-one year period, January 1937 to December 1958.

Incidence

J. B. Morgagni[31] was the first to report a malignant lesion of the ileum. Sorlin[37] described, in 1824, the first case of carcinoma of the jejunum. However, the first series of malignant lesions of the small intestine was reported by Leichtenstern[24] in 1876. His series showed that they represented 0.095% of all malignant tumors of the gastro-intestinal tract. Maydl[26] considered the incidence of malignancies of the jejunum and ileum to be approximately 0.029% while Nothnagel[32] in 1903, gave an incidence of 0.051%. Ewing[14] in 1931, felt that the incidence of these lesions was about 3%. Raiford[34] in 1932, reported a figure as high as 4.9%. Eger surveying 350,000 autopsies found an incidence of 0.03% of all cases. Review of the literature consequently shows that the actual occurrence of primary carcinoma of the small bowel varies from 0.03% to as high as 5% of all gastro-intestinal malignancies.

In 1933, Kiefer and Lahey[22] reported thirteen cases of small bowel carcinoma found in the files of the Lahey Clinic between 1915-1933; of these only six were primary carcinomas of the jejunum. Mayo[27,28] reported a series of forty cases from the Mayo Clinic covering the period 1907-1939. Horsley[19] in reviewing the literature from 1932 to 1941, found 256 cases of adenocarcinoma of the small bowel. Ficarra and Marshall[16] in 1945, collected twelve cases of primary carcinoma of the jejunum from the records of the Lahey Clinic for the thirty year period 1915-1945. In a review of the material in the Department of Surgical Pathology at the Presbyterian Hospital, New York City in 1943, Swenson[39] found nine cases of carcinoma of the jejunum and five cases of the ileum. In 1944, Boman[3] reported seven cases from the St. Luke's and St. Mary's Hospitals in Duluth, Minnesota in 230,000 hospital general admissions; of these three were in the jejunum and four in the ileum. In 1945, Fraser[17] gave a discussion on the subject and reported six cases of his own. In 1946, Swan[38] in a review of the literature from 1929 to 1945, found only sixty-six cases of carcinoma of the jejunum. Pridgen, Mayo and Dockerty[33] in 1950, reviewed the literature and found over five hundred cases of carcinoma of the jejunum and ileum reported predominantly in small series. In 1959, R. C. Darling and C. E. Welch[11] reported nineteen cases of carcinoma of the jejunum and four cases of carcinoma of the ileum, seen at the Massachusetts General Hospital between 1913-1953. Since then, there have been scattered reports of these lesions in the English literature making a total of more than six hundred and twenty cases according to A. R. McComb and Pridgen[29].

Many theories have been advanced to explain the low incidence of small bowel malignancies. All seem to stress the importance of the fluid nature of the intestinal contents, its alkalinity, the absence of stasis and abrupt bends and the possible presence of some intrinsic inhibitor, hormonal or chemical, in the intestinal secretions[1,4,5,8]. Carcinoma of the small intestine is more common in males than females. (2:1). The middle age group seems to be more affected[7,9,17].

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Symptomatology

The symptomatology of carcinoma of the small intestine is often insidious. It varies according to the size, duration and location of the lesion. Pridgen and others[33] categorized the clinical picture of malignant lesions of the small intestine into three syndromes:—anemic, obstructive and perforative. The anemic syndrome is characterized by pallor, weakness, loss of weight, fatigue and dyspnea. The anemia can be explained partly by blood loss from the ulcerated lesion and partly as the result of interference with the motility of and absorption from the bowel. The obstructive syndrome accounts for the symptomatology in 75% of the cases. Nausea, vomiting, sudden severe cramps in the central and lower abdomen, abdominal distention and borborygmi are the characteristic signs and symptoms. These signs and symptoms of obstruction may be, at times, the first to appear in a case of a polypoid lesion. The perforative syndrome manifests itself when the lesion has invaded and perforated the intestinal wall[9]. According to Mayo[27,28], the pain in these cases is localized and referred. It becomes steady when invasion of adjacent structures has occurred, a very late symptom.

Physical Findings

Very few positive signs are noted or elicited in the early stages of the disease[10,25]. It is usually in the later stages that the lesion manifests itself. A palpable mass in the abdomen "slipping away from the fingers" is usually a sign of inoperability.

Pathology

Primary adenocarcinoma more frequently involves the proximal portion of the jejunum and the distal portion of the ileum[30]. These lesions are macroscopically classified as: annular constricting, ulcerative and polypoid types[21,23,35]. The polypoid and the annular constricting lesions frequently give rise to intestinal obstruction which may be acute or chronic, partial or complete[13]. The complete and acute form of obstruction is precipitated by foodstuff or intestinal material which abruptly occludes the intestinal lumen at the site of the growth[16]. In the chronic forms of obstruction, the segment of intestine proximal to the lesion is dilated and hypertrophied.

Microscopically these tumors are adenocarcinomas, some of the colloid variety. The early metastases are to the adjacent tributary mesenteric lymph nodes and generally the nodal involvement is directly related to the grade of the lesion. The organs most commonly affected by late metatases are in order of frequency, the liver, lung, long bones and dura mater of the spinal cord[14,28].

Diagnosis

The early diagnosis of carcinoma of the small intestine is extremely difficult and infrequently made pre-operatively because of the paucity of specific symptoms and signs[20,36] Roentgen study of the gastrointestinal tract is of considerable aid in the diagnosis of this disease[12,15]. Weber and Kirklin[40] stated that 90% of the malignant lesions of the small intestine should be diagnosed or at least suspected on the basis of serial roentgenogram of the gastro-intestinal tract. The roentgen diagnosis of small bowel tumors is exacting and time consuming. According to Boman[3] 25% of these lesions can be demonstrated by x-ray studies.

The Roentgen methods of study of these lesions include:

1. Motility examination with oral administration of barium.
2. Injection of barium through a Miller-Abbott tube.
3. Barium enema with reflux of the solution into the terminal ileum.

The most important roentgen criteria for the diagnosis are obliteration of the normal mucosal rugae, defects in the continuity of the mucosa with alterated pattern, stiffness of the effected portion of the intestinal wall which is unyielding and tender to pressure, coiling, ulceration, filling defects, compensatory dilatation proximal to the lesion and narrowing of the lumen over a 2 to 5 cm. segment[2,6,18].

Prognosis and Treatment

When the clinical findings and the roentgen studies indicate the probability of the diagnosis of small bowel neoplasm, exploratory laparotomy is indicated. The prognosis of this disease is generally poor. The diagnosis is invariably late and so delayed that the possibilities of long survival are few. The ideal treatment is a wide resection of the lesion, removal of the adjacent mesentery with the regional lymph nodes and the reestablishment of the bowel continuity by end to end anastomosis. A side tracking procedure is recommended in the poor risk patients or in the presence of extensive and non-resectable lesions. The pre and post operative care is that of any bowel surgery. The surgical mortality reported to date has been high: 20% in the series reported from the Mayo Clinic by Mayo-Nettrour in 1937[27]. In the same series the post-operative survival varied from 11 to 17.3 months. Pridgen and others[33] in 1950, from the same clinic,

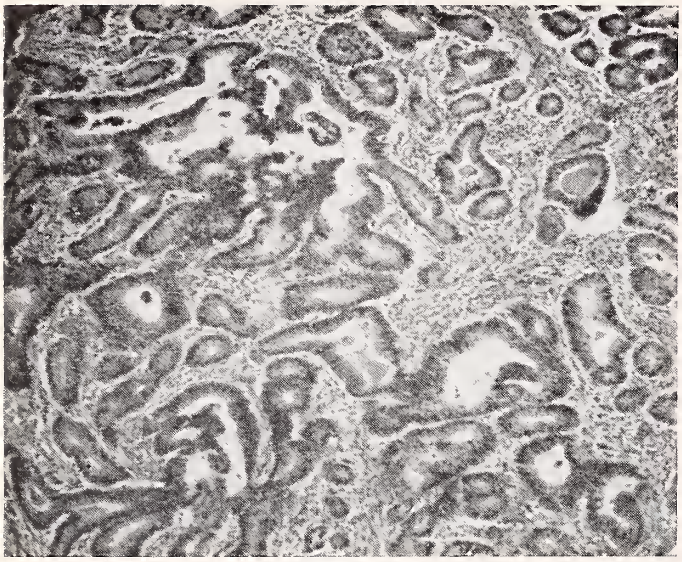


Figure I

Case I. Grade II adenocarcinoma of the jejunum. Note the irregular and coalescing acini lined by anaplastic cells invading the bowel walls. (Hematoxylin and Eosin x10.)

had an average post-operative survival of 32.2 months.

Case Reports

Case No. 1: (No. 24322). A.S. 53 year old white housewife was admitted to the Hospital of St. Raphael on August 4, 1953. About one month before admission, she developed episodes of indigestion characterized by distress in the epigastrium after eating and occasional bouts of bilious vomiting. There was a weight loss of six pounds. Three days prior to hospitalization, she began vomiting and experiencing cramp-like, generalized abdominal pain. She was unable to retain solid food or fluids and had a "blown up" feeling in the abdomen. Past history and family history were negative.

Physical examination revealed an acutely ill, febrile, dehydrated patient complaining of generalized, colicky abdominal pain, nausea and vomiting. The examination of the abdomen was not remarkable except for a soft distention, increased peristalsis with borborygmi and moderate degree of generalized tenderness. No masses were palpable.

*Laboratory Data:*Red blood cell count: 4,050,000; hcrt: 43%; hgb. 13 gm% with a normal W.B.C. and differential. CO_2 48 mEq; Chlorides, 61 mEq; Sodium: 124.8 mEq; Potassium: 2.2 mEq; Urea: 48.0 mgm.%. Urinalysis was negative except for two plus albuminuria. On the third hospitalization day, a roentgenogram examination of the upper G.I. tract, revealed distention of the duodenum and proximal jejunum, suggesting an obstructive lesion of the jejunum.

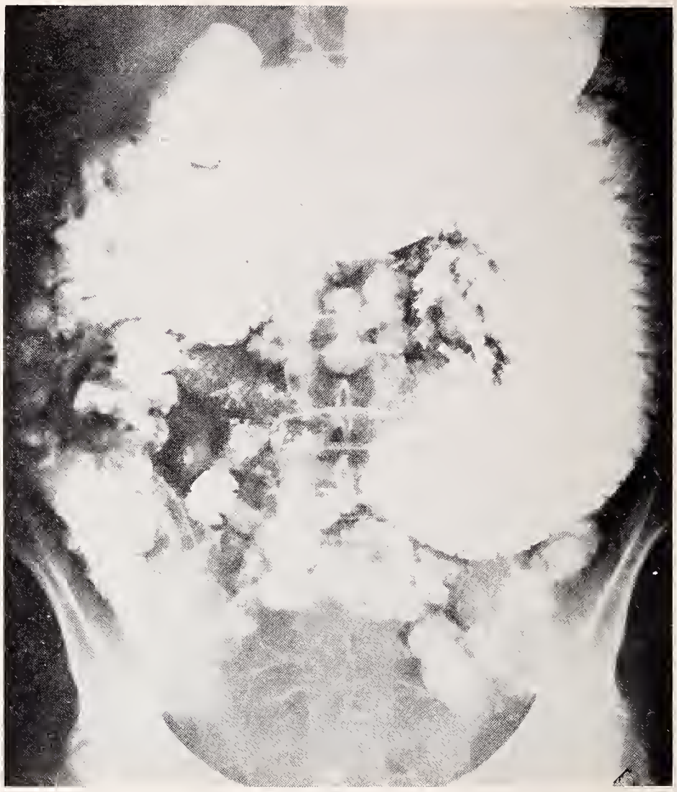


Figure II

Case II. G.I. Series demonstrating partial obstruction of the proximal jejunum.

On admission, naso-gastric suction and intravenous fluid therapy was instituted. The abdominal distention was relieved and the patient improved on supportive treatment. On the ninth day of hospitalization, an exploratory laporotomy was performed. The upper segments of the jejunum were distended and hypertrophied. An annular contricting tumor measuring 5 cm. in diameter was located 18 cm. below the ligament of Treitz. The liver was free of metastases. The regional mesenteric lymph nodes were enlarged. No metastatic involvement was demonstrable in the other abdominal organs. The lesion with 10 cm. of normal bowel proximally and distally and its attached mesentery was excised. Continuity was restored by an end to end anastomosis. The pathological diagnosis was adenocarcinoma of the jejunum, Grade II. The Post-operative course was stormy and the patient died on the tenth post-operative day of generalized peritonitis.

An autopsy revealed the following findings: "Post-operative entero-enterostomy with disruption of the anastomosis; acute generalized peritonitis; pancreatitis; acute pulmonary edema; no evidence of metastatic carcinoma."

Case No. 2: (No. 5454). E.B. a 50 year old housewife was admitted to the Hospital of St. Raphael on October 3, 1953, complaining of epigastric and right upper quadrant pain, nausea, anorexia, fatigue and weakness. These complaints were of four months duration. Recently, the attacks of pain had

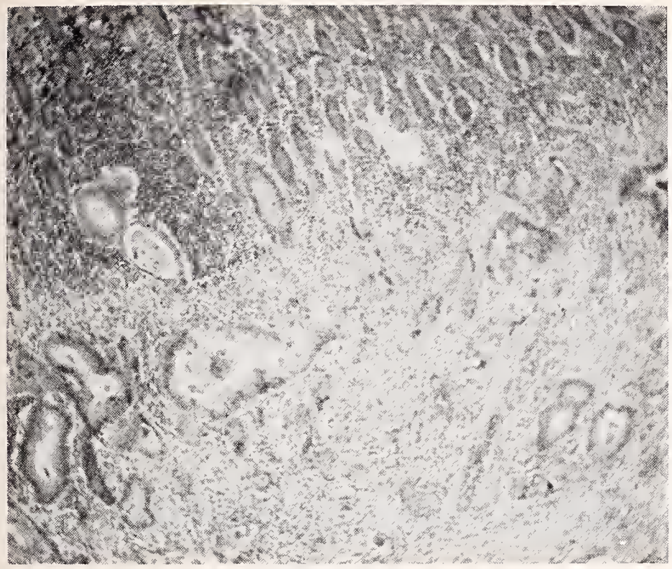
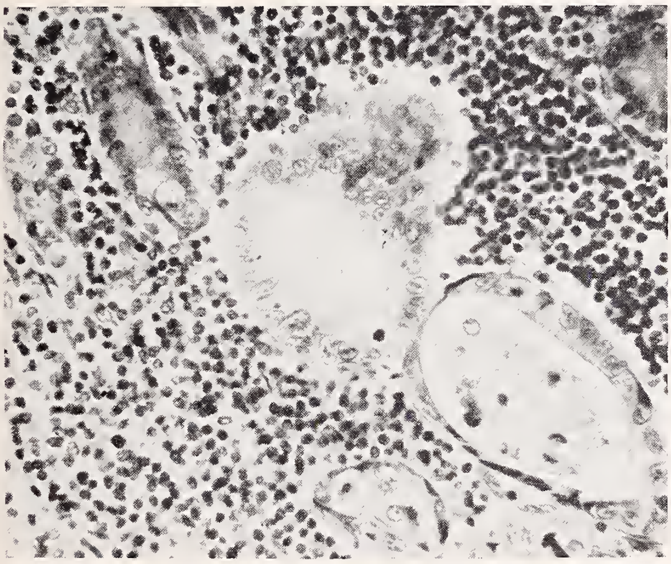


FIGURE III

A. *Case II.* Grade II adenocarcinoma of the jejunum. Transition of normal mucosal glands to tumor acini. (Hematoxylin and Eosin x10.)



B. *Case II.* A high-power detail of Figure III A demonstrating three stages of tumor dedifferentiation. Note the right acinus lined by keratinized cells. Acanthomatous cell group in the lumen. (Hematoxylin and Eosin x40.)

become more frequent and had been accompanied by vomiting and loose stools. She had lost approximately ten pounds in the last four months. Past and family history were negative. Physical examination was negative except for moderate right upper quadrant pain and a moderate degree of abdominal distention.

Laboratory Data: RBC: 4,010,00; Hgb. 12 gm.%; with a normal W.B.C. and differential. Urinalysis: negative Barium swallow revealed a complete obstruction of the proximal jejunum.

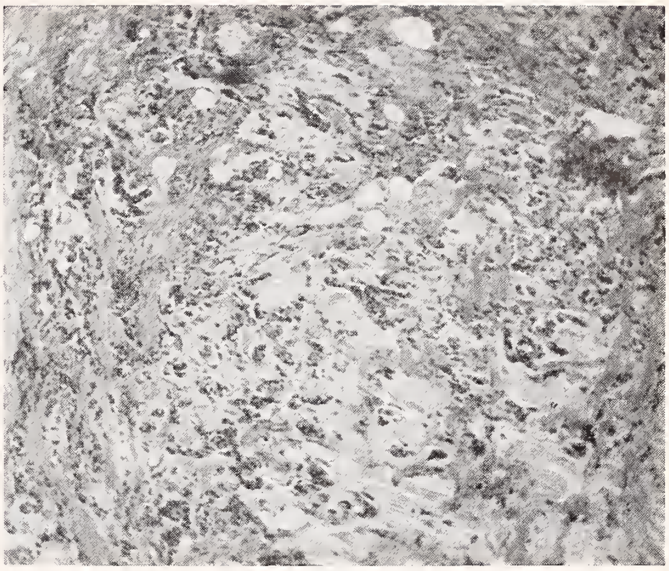


FIGURE IV

Case III. Adenocarcinoma of the ileum, growing mostly as colloid carcinoma. Masses and lakes of basophilic, amorphous colloid extends and dissects into contiguous tissue spaces and planes of cleavage. Floating within the colloid are nests of neoplastic cells. There is vacuolization of some of the cells. (Hematoxylin and Eosin x10.)

The patient was operated on October 10, 1953. An annular constricting lesion of the jejunum approximately 14 cm. distal to the ligament of Treitz and measuring 3 cm. in diameter was found. There were numerous enlarged lymph nodes in the mesentery adjacent to the lesion. The jejunum proximal to the tumor was distended and hypertrophied. The tumor was resected with a wide wedge of mesentery and the continuity of the bowel restored by end to end anastomosis. Pathological diagnosis was: "Adenocarcinoma of the jejunum, Grade II." The post-operative course was uneventful. The patient died of generalized carcinomatosis three months post-operatively.

Case No. 3 (No. 43172). M.R. a 55 year old housewife was admitted to the Hospital of St. Raphael on March 11, 1954 complaining of abdominal distention and intermittent cramp-like pain associated with nausea and vomiting. These complaints were of four days duration. However, she had had episodes of colicky abdominal pain referred to the right lower quadrant and accompanied by constipation and anorexia for the past six months. There was a weight loss of seven pounds. Past history was negative except for a fracture dislocation of the left humerus.

Physical Examination: The patient appeared thin, pale and dehydrated. Chest examination was normal. The abdomen was distended and hypertympanic on percussion. Bowel sounds were hypoactive to absent throughout. No masses were felt. Rectal examination was negative.

Laboratory Data: Hgb. 13 gm.%; hcrt. 45%; W.B.C.: 22,750 with 80% polys. NPN: 46 mgm.%;

Fasting blood sugar: 10 mgm.%; Urinalysis: sp.gr. 1.021; two plus reaction for albumin. Stools for occult blood, negative. Sodium: 123.1 mEq; Potassium: 3.4 mEq; Chlorides: 91 mEq; CO_2: 25 mEq. A scout film of the abdomen showed distention of the cecum which occupied the mid-abdomen. An emergency barium enema demonstrated an obstruction in the upper sigmoid colon.

On the day of admission, naso-gastric suction and intravenous replacement therapy was started. The patient was taken to the operating room where a tube cecostomy was performed under local anesthesia. The post-operative course was uneventful and the cecostomy functioned well. On April 11, 1954, the patient was subjected to an exploratory laparotomy with a provisional diagnosis of carcinoma of the sigmoid colon. Under general anesthesia, the peritoneal cavity was entered through a left paramedian incision. A large tumor mass was found involving the last 40 cm. of the terminal ileum densely adherent to the cecum, the sigmoid colon and the right adnexa. There were numerous enlarged lymph nodes in the mesentery and along the para-aortic chain. The liver was grossly free of metastases. A total colectomy with resection of the terminal 40 cm. of ileum adherent and partly involved by the lesion with attached mesentery and right adnexa was performed. The continuity of the bowel was restored by end to end ileo-rectostomy. The recovery was uneventful. The patient was discharged improved two weeks later; however, the patient died of metastatic cancer one year later.

The pathological diagnosis was: "Mucinous adenocarcinoma of ileum involving by direct extension the sigmoid colon, the cecum and the right adnexa. A benign polyp and a lipoma of the cecum were also present in the resected specimen."

Comment

Primary adenocarcinoma of the small intestine is rare. We were able to collect only two cases of primary carcinoma of the jejunum and one case of primary adenocarcinoma of the ileum from 150,000 general hospital surgical admissions over a twenty-one year period. (1937-1958). Most of the authors state that males are more commonly affected than females, in a ratio of two or three to one. All our patients were females whose ages were 53-50-65 years. The duration of symptoms varied from one to six months. These patients presented as cases of high intestinal obstruction. Loss of weight was a symptom in all cases varying from six to ten pounds.

Resection with end to end anastomosis was performed in all cases. Metastases to the mesenteric nodes were present in two cases. The longest survival was one year. The pathological diagnosis in two cases was: "Primary adenocarcinoma" and in one, "colloid carcinoma." It can be seen from these three cases as well as from other collected series that owing to late diagnosis, the outlook for these patients is poor.

Summary

Two cases of primary adenocarcinoma of the jejunum and one case of colloid carcinoma of the ileum are reported. The literature is reviewed and the clinical findings, the pathology, diagnosis and treatment discussed.

Acknowledgment

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Penicillin For Pain

Administration of antibiotics when indications have not been present has produced devastating and even fatal results. For example, chloramphenicol has been used in some minor catarrhal conditions and in some cases has induced marrow aplasia.

Penicillin has been a misused antibiotic, but dangerous effects were produced only in sensitized subjects. One study of 10 patients showed that indications for treatment seemed to be present in only three subjects; six patients died. Among indications accepted for penicillin treatment were signs of toothache, conjunctivitis, and the common cold. In a report of 30 fatal cases of penicillin shock, included in the inadequate indications were sprained toe, injury to finger, nonspecific skin eruption, and stasis dermatitis.

Oral penicillin is safer than parenteral administration of the drug, but one review of the literature extracted 26 instances of shock-like reactions (two of which were fatal) to tablets or other oral preparations. "It is perhaps significant that, in a table occupying the whole of two facing pages in which the features of these cases are analysed, none of the 17 columns refers to the indication for which the drug was given."

A teen-ager obtained penicillin upon a telephone order from her dentist who thought the pain of which she complained resulted from sepsis following a tooth extraction. Following self-administration of two penicillin tablets she was brought unconscious and almost pulseless to the hospital. She had thought that penicillin was used to relieve pain.

But is it only such an immature mind that considers penicillin on the same level as acetylsalicylic acid? *(Brit. M. J. 2:204, July 16, 1960.)*

GASTROPEXY FOR HIATUS HERNIA IN ELDERLY AND POOR RISK PATIENTS

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Gastropexy to correct hiatus hernia or to relieve its symptoms is a worthwhile simple procedure, especially in older or poor risk patients. It can be carried out with little added time or risk in conjunction with other surgery of the upper abdomen; for example, cholecystectomy.

This study was undertaken in an attempt to correct hiatus hernia by a simple and rapid method following reports by Nissen[1,2] in 1956. This procedure is not intended to be a substitute for the surgically and physiologically superior procedure of anatomic repair by the thoracic or abdominal route.

This series deal with six cases, all of which had severe symptoms due to hiatus hernia, necessitating surgical intervention. The ages of these patients varied from 41 to 81. They were selected on the basis of poor risk, old age or the relative simplicity of the procedure in conjunction with cholecystectomy.

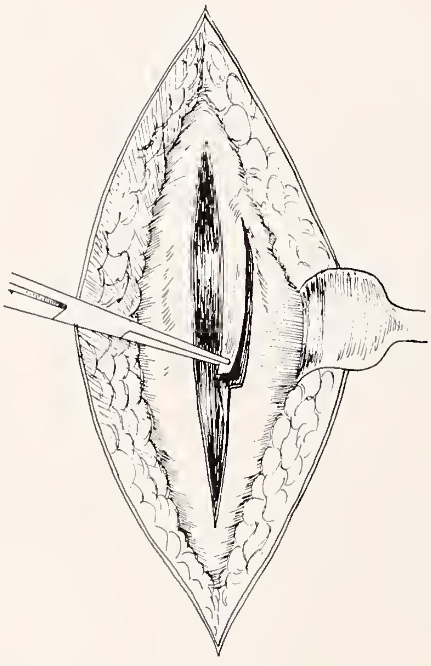

Figure I
Fascial strip when left paramedian or midline incision is employed.

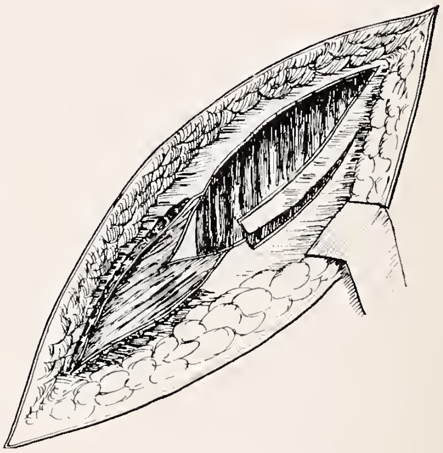

Figure II
Fascial strip when right subcostal incision is employed.

Procedure

Three patients were operated by a left paramedian incision, one by a midline and two by a right subcostal incision extending across the milline. One patient with low respiratory reserve was done under local anesthesia and celiac block. The remaining five were operated under a combination of intravenous pentothal and gas-oxygen-ether inhalation. The procedure is as follows.

A strip of anterior rectus fascia 1.5 to 2.0 centimeters wide and 5 to eight centimeters long is incised from either fascial edge leaving attached the upper end when a vertical incision is used, or the left end when a transverse incision is used (see figures 1 and 2). The method advocated by Nissen, who left the lower end of the fascial strip attached as in figure 3, was not used because it does not allow for fixation to the stomach near the esophago-gastric junction. The hiatal contents (in this series consisting of the stomach) is then reduced into the abdomen, and while held under moderate tension by an assistant, the fascial strip is sutured along the anterior surface of the stomach running from the

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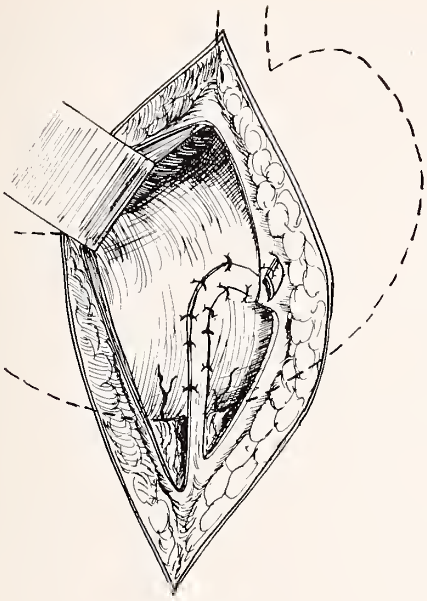

Figure III
Fascial strip as advocated by Nissen—note strip originating from inferior portion of anterior rectus fascia.

greater curvature up to the upper end of the lesser curvature near the esophago-gastric junction using interrupted 2-0 silk sutures (see figures 1A and 2A). The anterior gastric wall is then sutured to the anterior peritoneum with interrupted silk sutures. In this procedure, the hernial sac and ring are not disturbed. This procedure also prevents the transverse colon, and to a large extent, the omentum and small bowel from migrating up to the region of the hiatal ring. Closure of the abdomen is carried out in the usual fashion, leaving a small peritoneal defect through which the fascial strip enters the abdominal cavity.

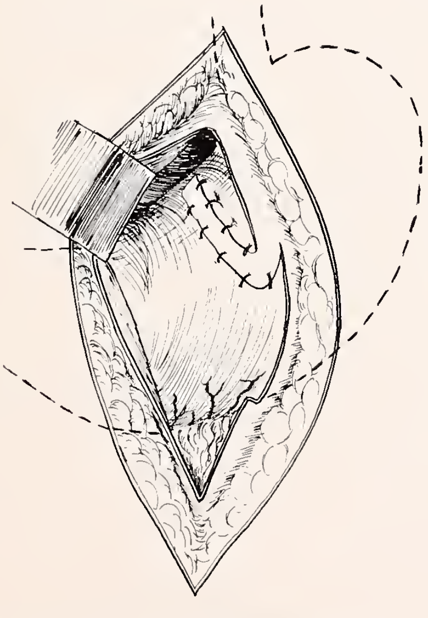

Figure Ia
Finished procedure when left paramedian or midline incision is employed.

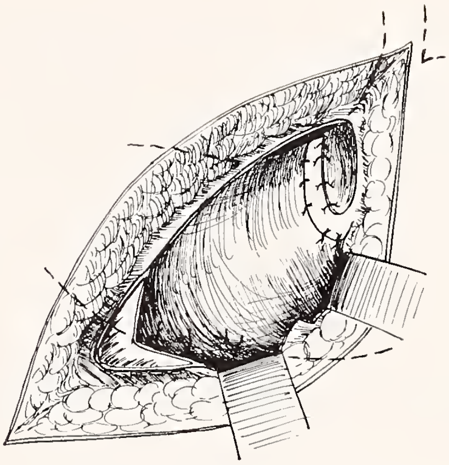

Figure IIa
Finished procedure when right subcostal incision is employed.

Case Reports

Case 1: A.A. (CCH 77905) was a 70 year old white female with epigatric pain and discomfort for five months with dysphagia, worse while lying down. She was treated medically without benefit. Upper gastro-intestinal series revealed a 40% paraesophageal herniation of the stomach into the chest. Gall bladder series also revealed cholelithiasis with a non-functioning gall bladder. Cholecystectomy and gastropexy were performed under gas-oxygen-ether anesthesia, through a right subcostal incision. The patient had an uncomplicated post-operative course with an upper gastro-intestinal series nine days post-operatively revealing the absence of the hiatus hernia. One year post-operatively the patient had no digestive complaints except for slight belching and was eating a non-restricted diet. Repeat upper gastro-intestinal series revealed a 20% sliding hiatus hernia, which reduced easily.

Case 2: M.M. (CCH 76772) was a 70 year old white female with a one year history of epigastric and right upper quadrant pain accompanied by vomiting. Two weeks prior to admission the patient suffered severe vomiting of coffee-ground material. Gall bladder series revealed cholelithiasis and upper gastro-intestinal series revealed a small diaphragmatic hernia with a peptic ulcer in the herniated portion of the stomach and evidence of esophagitis. The patient was treated with nasogastric suction followed by a medical regime for three weeks with moderate improvement. Cholecystectomy with a common bile duct exploration, and a gastropexy were performed under gas-oxygen-ether anesthesia through a right subcostal incision. The patient was placed on T-tube drainage and kept on nasogastric suction for three days post-operatively. Thereafter, her appetite remained poor probably secondary to a moderate superficial wound infection, which cleared on soaks and antibiotics. The T-tube was removed ten days post-operatively, after a normal T-tube cholangiogram. Repeat upper gastro-intestinal series nineteen days post-operatively and repeated one year later revealed no hernia, ulcer or esophagitis, and the patient remained asymptomatic.

Case 3: J.B. (CCH 74621) was an 81 year old white male with thirteen months of severe epigastric burning and fatty food intolerance. An upper gastro-intestinal series revealed a 20% diaphragmatic hernia of the direct type with peptic esophagitis. The patient could not be controlled on medical regime and the epigastric distress became progressively worse. A gastropexy was performed under pentothal and gas-oxygen-ether anesthesia, through a left paramedian incision. Post-operatively, because of severe coughing, the patient had some weakening of his operative wound. He also suffered mild gastric dilatation with vomiting, requiring nasogastric suction for three days. He developed an incisional hernia. An upper gastro-intestinal series nineteen days post-operatively revealed no recurrence of the hiatal hernia or of the esophagitis. Seventeen months later, a repeat gastro-intestinal series showed complete absence of hiatus hernia and esophagitis. The patient had no digestive complaints and was eating a non-restricted diet.

Case 4: S.W. (CCH 79437) was a 67 year old white female with a two year history of epigastric pain immediately after meals relieved by alkali and lying down. A hiatus hernia had been present by x-ray since 1951, but had been asymptomatic till the present illness began. Gall bladder series revealed cholelithiasis with a well functioning gall bladder. Cholecystectomy and gastropexy were performed under gas-oxygen- ether anesthesia, through a midline incision. Post-operatively, the patient developed a cystitis which responded to antibiosis. An upper gastro-intestinal series eleven days after the operation revealed no recurrence of the hernia. Eight months later, the patient still had epigastric distress and belching but less severe than pre-operatively. An upper gastro-intestinal series at this time revealed no hiatus hernia.

Case 5: F.M. (CCH 77238) was a 41 year old while female with a one year history of indigestion and severe right upper quadrant pain with vomiting. Medical therapy failed to relieve her symptoms. Gall bladder examination revealed a normal gall bladder with no evidence of stones. An upper gastro-intestinal series revealed a 15% stomach herniation into the chest. Gastropexy was performed under pentothal and gas-oxygen anesthesia, through a left paramedian incision. Post-operatively, the patient required nasogastric suction for four days because of vomiting and paralytic ileus. A repeat upper gastro-intestinal series four months after operation revealed no hernial recurrence and the patient has remained asymptomatic.

Case 6: S.W. (CCH 77619) was a 74 year old white male with an epigastric hernia of three months duration. He had had hemoptysis and vomiting of ingested food both two months and two days prior to admission. Gall bladder examination revealed a normal gall bladder, but an upper gastro-intestinal series revealed a 60% herniation of the patient's stomach into the chest. Previous admissions had revealed silicosis, probable apical tuberculosis and hiatus hernia with secondary upper gastro-intestinal bleeding. Because of the severe respiratory disease, the patient was operated under local anesthesia and celiac block, through a left paramedian incision, in order to relieve the worsening epigastric symptoms. Post-operatively, the patient developed a staphylococcal wound infection with subsequent wound evisceration. The wound was resutured and the patient made a good recovery. The hiatus hernia and the patient's symptoms returned. Because of the progressively severe symptoms and anemia secondary to chronic upper gastro-intestinal bleeding, a trans-thoracic herniorrhaphy was done in spite of the known risk, eight months after the first procedure. The patient went progressively downhill and died on the seventh post-operative day.

Discussion

Although x-rays immediately post-operatively revealed complete reduction of the herniae, further follow-up did show recurrence in some of the cases. However, symptomatically, three were completely relieved, two greatly benefited and one failed secondary to infection and wound evisceration. One patient with esophagitis and one with esophagitis and an ulcer in the herniated portion of the stomach are asymptomatic post-operatively with no evidence of ulcer or esophagitis and are able to tolerate a non-restricted diet.

In one of the surviving five cases, an incisional hernia at the site of the invaginated anterior rectus strip has occurred, but the patient has remained asymptomatic. This also occurred in the case that died, but this was secondary to the wound infection and evisceration.

Frequently, in older patients, hiatus hernia is associated with gall bladder disease, and often it is difficult to differentiate which of the conditions is actually causing the symptomatology. With this in mind, gastropexy can be carried out in conjunction with cholecystectomy, as was done in three of our cases with good results. This secondary procedure added only twenty to thirty minutes to the total operative time and did not appear to affect the morbidity.

Nissen[1] reported that some of his cases suffered "a smothering pain" for the first few days post-operatively while walking around, but this did not occur in our cases. All patients on discharge were eating full diets and were on no specific medical therapy.

Nissen also reported moderate digestive disturbances in the immediate post-operative period. In our series, one patient with complicating esophagitis, one with paralytic ileus and one with cholecystectomy and common bile duct exploration required nasogastric suction for three to four days.

In the post-operative upper gastro-intestinal series, a constant ovoid filling defect with retraction of the mucosal folds was noticed along the upper one-third of the greater curvature of the stomach, best seen in the anterior-posterior view. This was noted in two of our six cases. The significance of this defect is at present unknown, but may be due to the tension of the fascial strip.

Although Nissen advocated this as a preferred surgical procedure for hiatus hernia, we believe that, at present, the only indications for this procedure are when more definitive therapy is contraindicated. Our series is small and the follow-up relatively short, but we believe that this procedure has merit and does have a definite place in the management of hiatus hernia.

Summary

A somewhat different surgical treatment for hiatus hernia in elderly and poor-risk patients with severe symptomatology is presented. The technique of the operation is briefly presented with illustrations. The six cases in this series are reviewed. The procedure is easily and quickly performer, and can be carried out in conjunction with other surgery of the upper abdomen.

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Ectopic Pregnancies

When salpingectomy was the treatment of choice in ectopic pregnancy, a third ectopic pregnancy in the same patient was highly unlikely, says Dr. Samuel S. Rosenfeld. Today however, an increase in the number of operations to preserve the salpinges would probably increase the possibility of such a triple occurrence.

"Ectopic pregnancy is not unusual, and repeated ectopic pregnancy is not rare, but the occurrence of three ectopic pregnancies in one patient is, to say the least, uncommon." During a 40-year practice "I had never previously seen a patient who had 3 ectopic pregnancies." The chance of recurrent ectopic pregnancy increases 50-fold following an initial operation for this condition, according to one estimate.

One patient in whom the author performed partial resection of a tube for ectopic pregnancy had another ectopic gestation in the same tube. Experience with this patient seems to confirm the opinion that "conception is facilitated when tubal resection is combined with oophorectomy on the same side." In two instances, pregnancies occurred following the left salpingectomy. In each, conception took place eight months after contraception was discontinued.

In ectopic pregnancy the mortality is low; but fatalities occur, particularly if competent aid is not promptly available in event of rupture. Hence, the patient who has had two ectopic pregnancies may best be served by being sterilized at the time of the second operation. (*Am. J. Obst. & Gynec. 79:817, April, 1960.*)

NOTES ON
DRUG THERAPY IN PEPTIC ULCER

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Simplicity should be the keynote in the drug therapy of uncomplicated peptic ulcer. However, the estimated expenditure of somewhere between $80,000,000 and $100,000,000 per year in this country for drugs used to relieve indigestion would seem to indicate that such drug therapy has become unnecessarily complicated and expensive. By and large this type of therapy should be as simple to carry out and as effective as the diagnosis of peptic ulcer is simple to make. This widespread condition, said to be present in well over 10,000,000 patients in this country alone and probably present in even more, is easily made on the basis of upper abdominal distress which is relieved temporarily by food or an antacid. The occasional occurrence of lower abdominal or back discomfort alone is merely a variation of the main theme which is remarkably consistent, just as our therapeutic efforts should be.

Perhaps if we review some of the generally accepted important factors in the etiology and pathogenesis of peptic ulcer, we can better understand and apply therapy. The mucosa of the normal stomach and duodenum is resistant to the digestive action of gastric juice, whereas in duodenal ulcer this normal balance between the resistance of the mucosa and the digestive action of hydrochloric acid and pepsin is usually upset by an excess of acid and pepsin. In gastric ulcer, this normal balance is presumably upset by diminished tissue resistance, though the acid juice is still probably an essential factor in ulcer formation here. In other words, peptic digestion occurs when the natural resistance of the gastro-duodenal mucosa is overcome. There is general agreement that nervous tension, particularly that characterized by anger and resentment, can play an important role. Though the normal stomach calms down after a feeding, the ulcer stomach does not, but rather continues to behave like the normal stomach does for short periods during hunger, with hypermotility and hypersecretion. The evidence suggests that the mechanism may be somewhat different in gastric ulcer, but in the more common duodenal ulcer gastric hypersecretion on a "nervous" basis seems to be a very prominent factor, particularly in the ambitious, frustrated, resentful, angry and overactive patient driving ahead. However, I would caution that as far as I know there is no specific "ulcer profile" psychiatrically. Still, there is much confirmatory evidence for the importance of nervous tension in this disorder. This can perhaps best be illustrated by what happened during World War II when the incidence of perforated ulcers tripled in London during the air raids and increased greatly in both Germany and Holland, though it is interesting that in the latter country the Dutch who were in prison camps and presumably "out of it" as far as the war was concerned had a drop in the incidence of peptic ulcer. In our own country, the incidence of peptic ulcer has apparently been increasing as life becomes generally faster and more complex. This relationship is further brought out by the fact that though duodenal ulcer occurs more frequently in men than in women, the incidence in career women is about the same as in men. Furthermore, the incidence is very high in the medical profession. Finally, though peptic ulcer is infrequent in the southern negro, it apparently increases sharply when this same southern negro goes north and becomes involved in our urban-industrial society.

Theoretically, the pathway for this nervous tension is by means of the vagus; perhaps the release of acetylcholine at the vagus nerve endings causes arteriolar spasm as well as spasm of the smooth muscle generally, and further causes a hypersecretion of acid and pepsin. There are probably also hormonal factors related to "stress" and mediated by the anterior pituitary and adrenal glands in some as yet unexplained way. Some of these stress factors are illustrated by the acute ulcers which occur with brain surgery, severe burns, and very severe emotional stress. All these factors are related to the so-called cephalic phase of digestion which precedes the gastric phase which in turn is mediated by the secretion of gastrin, considered by many to be the same as histamine, in the antrum of the stomach.

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The above review is essential in any consideration of the drug therapy of peptic ulcer and serves to point up the great importance of what we might call the "cerebral factor." Although this problem of nervous tension has to be explored in every peptic ulcer patient by every physician, it must be done tactfully and carefully, and is rather a difficult and time-consuming process. Even when the patient's emotional and tension problems are quite evident, their amelioration and modification are usually very slow, despite the best intentions of both the patient and the physician. Job incompatibilities, financial problems, marital difficulties, and other sources of tension are not easily corrected. The interruption of the vicious cycle present under these conditions usually requires at least a temporary sedative and tranquillizing agent. In my experience, the simplest and yet most effective as well as most inexpensive agent that can be used in this connection is phenobarbital in a dose of ¼ to ½ gr. every six hours, with adjustments in the dosage and timing according to the individual situation. I believe that if I were to be allowed only one drug in the treatment of peptic ulcer, I could manage very well with the judicious use of phenobarbital combined with a suitable dietary regime. I have yet to see any definite or outstanding advantages over phenobarbital of the many other barbituate preparations. Nor have I been able to see any advantage in the multitude of "tranquillizers" now available, except in the occasional selected patient or in the patient who is sensitive to phenobarbital.

It further follows from the discussion of the role of the gastric juice in the pathogenesis of peptic ulcer that every effort should be made to *allow the ulcer to heal* by buffering the acid. Actually, this buffering can be accomplished quite well but not very conveniently in the average patient by hourly feeding of milk which furnishes protein to neutralize the acid and fat to depress gastric secretion. I have largely discontinued the addition of cream to avoid excessive weight gain and to cut down the already excessive animal fat intake which is so prevalent and which is believed to have some bearing on the problem of arteriosclerosis. I do not find that the elimination of cream diminishes appreciably the effectiveness of this type of regimen. However, the inconvenience of hourly feeding and the requirement by many patients of an alternate acid buffer which might give more prompt relief has led in the past to the use of the Sippy powders whose main ingredients were sodium bicarbonate and calcium bicarbonate. Although these alkalis are unexcelled for prompt relief and good neutralization, they are generally undesirable for regular and continued use becaus of the danger of alkalosis which can completely confuse the clinical picture with its attendant symptoms of nausea and vomiting, headache, and even tetany. Further, there is the added risk in some patients under these circumstances of renal damage due to calcinosis.

As a result, this otherwise effective alkali therapy has been largely replaced by the amphoteric and non-absorbable antacid best exemplified by aluminum hydroxide gel which acts more slowly but can keep gastric acid controlled by repeated doses at one or two hour intervals, without upsetting the acid-base balance. A very effective regime for an acute ulcer consists of alternating hourly feedings with hourly or half-hourly administration of this buffer in doses of 10 to 30 cc., and continuing such a regime throughout the night when hypersecretion tends to be most marked in the duodenal ulcer patient, though it is common practice to completely forget therapy during the night while almost over-treating the patient during the day. The frequency of the administration of buffering therapy can be appreciably diminished as the patient improves, always remembering that the rise in gastric acidity after a meal is quite precipitous and reaches a peak three-quarters of an hour to one hour after a meal. If we are trying to allow the ulcer to heal by controlling the digestive action of gastric juice, it does not do much good to administer our antacid for the relief of pain as this is probably too late to help healing; it is much more important to try to prevent pain and expedite healing by timing our administration in the light of the acid curve after eating and also the timing of the patient's discomfort after eating. As is so often true in most forms of therapy, each patient must be individualized and the treatment adjusted to his particular situation and problem, and it is almost impossible to lay down any rigid routine which would be effective for every patient. Unfortunately, the tendency for aluminum hydroxide gels to cause constipation has been troublesome, but this problem has been reasonably effectively overcome by the addition of various magnesium compounds, though the addition of the latter may result in some bowel irritability. Although the liquid buffers are usually more effective, the tablet form is often more convenient and can be used quite effectively.

I have purposely left discussion of antispasmodics for last because I consider them the least important in the drug therapy of peptic ulcer. Although they are effective in full physiologic dosage in diminishing gastric tone and motility, they have generally a much lesser effect in diminishing gastric secretion. Tincture of belladonna and atropine should still be our most widely used antispasmodics; they are relatively inexpensive and in adequate dosage quite as effective as the newer potent anticholinergics. Again, dosage must be adjusted for the individual patient, but one cannot expect any notable therapeutic effect unless the so-called undesirable but physiologic side-effects are present; if the patient does not have some dryness of the mouth and throat or some blurring of vision, he is probably not having any of the desired physiologic effects and it is probably wise to avoid as ineffective any antispasmodic reputed to be free of "undesirable" side-effects. I have long suspected that the major benefit of many of these preparations is related to the phenobarbital or other sedative combined with them. Generally speaking, I have not found the use of antispasmodics very helpful or necessary in the treatment of peptic ulcer.

My inclination to avoid especially the potent anticholinergic quaternary ammonium compounds like banthine or even atropine products in effective dosage has been reinforced by some of the more serious problems attendant on their use. Aside from the danger of increased intraocular tension in patients with glaucoma, there is the widespread danger of increasing pyloric obstruction and gastric retention which are so often present, unrecognized, in mild to moderate degree in chronic duodenal ulcer. This "sub-clinical" degree of pyloric obstruction can be rapidly transformed into marked obstruction and retention with marked increase in symptomatology by the use of a potent anticholinergic which eliminates the compensatory gastric hypermotility and hypercontractility which in turn keep the stomach compensated by forcing the gastric contents out through the narrowed area. Cutting down the motility of the stomach can definitely be very undesirable under these circumstances. Furthermore, the increase in symptoms often leads to a mistaken increase in dosage of the anticholinergic, setting up a very vicious and confusing cycle. Another very common problem and also a definite contraindication to the use of a potent anticholinergic is urinary retention due to any degree of obstruction to the urinary outflow from the bladder, most commonly due to prostatic hypertrophy. The same situation obtains here as in gastric retention due to pyloric obstruction: whereas the hypertrophied and hypercontractile bladder musculature can force urine out through the obstruction under normal circumstances, the elimination by the anticholinergic of this increased bladder contractile power can result in complete urinary obstruction and acute retention. The contraindicating problems are so relatively common and the beneficial effects of the anticholinergics so relatively unimportant except in selected cases that I repeat my conviction that most patients might be better off without them. However, I should add that when antispasmodics are used, they must always be given on an empty stomach, as they are ineffective in the presence of food.

Furthermore, since peptic ulcer tends to be a recurrent disorder with spontaneous remissions and relapses, it is difficult often to evaluate therapy or to decide how long and to what extent therapy should be maintained. Again, this is a matter for individualization depending on one's experience with and observation of the particular patient over a period of time. In general, a good therapeutic regime should be maintained for at least three months, as gastroscopic observation of gastric ulcers has indicated that it takes four to twelve weeks with an average of six to eight weeks for an ulcer to heal, even though x-ray examination may have indicated complete healing in a matter of three or four weeks. The regime can then be modified and simplified and adjusted to the patient's activities and requirements, but some regime should be maintained for at least a year and perhaps indefinitely.

I should not conclude this discussion of drug therapy in peptic ulcer without mentioning the increasing list of drugs which are believed to induce or aggravate peptic ulcer. Elimination of the use of these drugs in patients with peptic ulcer, or at least their careful use with full knowledge of their potential harm in these circumstances might do a good deal more for the patient than the use of any combination of therapeutic drugs might accomplish. The mechanism of peptic ulcer formation as a result of these drugs appears to be on the same local basis as the usual peptic ulcer, with acid-pepsin digestion of localized areas of gastric or duodenal mucosa which have been damaged. Histamine, Mecholyl, Priscoline, and reserpine are reported to be harmful by their stimulation of hypersecretion of acid so that local areas of subnormal gastric or duodenal mucosa which are weakened by vascular or spastic or other factors are digested away by the long constant exposure to increased amounts of acid juice. Histamine directly stimulates secretion of gastric acid, whereas Mecholyl acts by means of vagus nerve stimulation. Priscoline, like other adrenergic blocking agents such as hydralazine, also is reported to cause an increase in the secretion of hydrochloric acid in the stomach, presumably by suppressing the sympathetic nerves and thereby allowing a preponderance of vagus nerve action. Reserpine presumably increases the secretion of acid by stimulating the sympathetic inhibitory center in the hypothalamus, though there may be some direct influence on the parietal cells of the gastric mucosa. The development of peptic ulceration as a result of the use of drugs like Butazolidin, cinchophen, and salicylates is reported to depend on localized but severe irritation of the mucosa of the stomach and duodenum with the development of areas of hemorrhage and erosion which can be quite severe. Caffeine appears to induce peptic ulceration as a result both of tissue damage and prolonged hypersecretion of acid, and alcohol stimulates marked hypersecretion of acid by local release of histamine and central effects. Prior to the use of histamine as a test agent for the presence or absence of hydrochloric acid in the stomach, we used 50 cc. of 7% alcohol which usually caused a tremendous outpouring of acid within 30 to 45 minutes. Coffee "breaks" and cocktail "hours" probably exact quite a toll.

Although ACTH and adrenal steroids definitely appear to be harmful agents as far as peptic ulcer is concerned, their mechanism of action is not clear but seems to be related more to their harmful effect on gastro-duodenal mucosa rather than on causing gastric hypersecretion. It is worth noting that the drugs considered most harmful in this connection appear to be those which are used in the treatment of various forms of arthritis, namely Butazolidin, ACTH and the adrenal steroids, and the salicylates. The incidence of indigestion and ulcer-like symptoms with or without bleeding, following the use of salicylates runs as high as 70% in some reported series; bleeding and perforation are reported more troublesome with the use of Butazolidin. An important factor is th susceptibility of the individual to the particular drug insofar as the development of a peptic ulcer is concerned, and there is marked variation in the tendency of various drugs to induce such ulceration. If these drugs are necessary, it should be possible to use them carefully, but it would probably be desirable to try to protect the patient against developing or aggravating a peptic ulcer by an adequate regime of diet and medication. It seems to me that the important factor in this connection is to be aware of the potentially harmful effect of these and related drugs.

The two cornerstones of drug therapy in peptic ulcer are therefore, in my opinion, sedation and buffering of acid. The first would appear to be best carried out by means of such a well-known and inexpensive drug as phenobarbital. The most useful buffer still seems to be aluminum hydroxide gel with or without addition of a magnesium compound. Very few uncomplicated ulcers fail to respond to judicious use of these two agents in conjunction with a dietary regimen. The list of drugs to avoid in the presence of a peptic ulcer is a much longer one.

IBM Medicine

"A current method of 'working up' a patient might be called 'IBM diagnosis,' " according to Dr. C. Bruce Morton II. The physician lists his "impressions" and every x-ray and laboratory procedure he can think of. Whether the procedure is productive of information or the diagnosis may be reasonably ascertained long before the work-up is completed, all procedural buttons must be pressed so that the time-consuming, exhausting, and costly "machine" may produce the required "card" "which MAY provide the correct diagnosis."

In this IBM method, the "routine physical examination" is sometimes made only after "the patient has been whisked to the laboratory or x-ray room."

Too often the patient is hospitalized—even though diagnosis may be established without hospitalization—thus leading to unnecessary hospital expansion, "astronomical" hospital costs, and prohibitive burdens on patients with low incomes. This IBM method may be scientific, but the mechanism is without brains.

"The truly experienced clinician first ascertains from the patient what troubles him, when and how it started, what body function seems related to it, what things aggravate the condition and what things minimize or relieve it."

The clinician tries to narrow the area of attention; a simple physical examination may reveal the diagnosis. Furthermore, the clinician is solicitous of the patient's time, comfort, and finances. (*Virginia M. Month. 87:117, March, 1960.*)

The Incidence Of
ALLERGIC DISEASES IN A PEDIATRIC POPULATION

**A study—
Showed the incidence among the pediatric population is much greater than that of the adult group.**

MAURICE M. HILLMAN, M.D.*
New Haven

Many surveys have been made in order to determine the incidence of allergy in the general population.

According to Vaughan and Black:[1] "The earliest of these modern surveys was that of Spain and Cooke (1924) who in a survey of 506 medical students, nurses and patients concluded that 3.5 per cent of the population are subject to hay fever or asthma at some time in their lives. They estimate the total incidence of human hypersensitiveness as approximately seven per cent."

"The next population survey dealing primarily with asthma and hay fever was that of Piness and Miller (1930) who surveyed two entire communities in the West. In the first town of 3,000 population, 4.4 per cent had hay fever while in the second of about 1,000 population, approximately three per cent suffered from the disease; 21.6 per cent of the hay fever victims in both cities also had asthma. These were mining communities in the far West."

Attempts have been made to approximate the percentage of allergy in the civilian population, but it appears that the concensus[2–3] of opinion is that approximately 10 per cent of the people in the United States has some form of major allergy.

Previously, most of the surveys made were limited to the general population. Recently, however, there have been some studies made that were concerned with the pediatric segment of the population. One of these was made by Crook[4] et al. He conducted a survey in his general practice of pediatrics in order to determine the incidence of allergic diseases. This they determined as 14 per cent plus.

More recently, however, Rapaport[5] et al, made a study to determine the incidence of allergic disease in the pediatric age segment of the population. According to their survey, they concluded that the

Table I
Asthma
Number and Per Cent by Age and Sex
New Haven, Connecticut—March, 1959

	TOTAL		NUMBER		
AGE	NUMBER	PER CENT	MALE	FEMALE	SEX NOT STATED
0-4	14	1.5	11	3	
5-9	83	4.2	54	28	1
10-14	69	3.6	40	29	
15-19	40	3.4	22	17	1
20-44	86	2.2	31	55	
45 Years and Over	17	1.2	10	7	
Child (age not stated)	1	0.2	1		
Adult (age not stated)	1	0.2			1
0-9	97	3.3	65	31	1
0-14	166	3.4	105	60	1
0-14 (includes children age not stated)	167	3.1	106	60	1
15-19	40	3.4	22	17	1
20 Years and Over (includes adults age not stated)	104	1.8	41	62	1
Total	311	2.5	169	139	3

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Presented at the Annual Meeting of the Connecticut Allergy Society, New Haven, Connecticut, October 22, 1959.

incidence of major allergic disease in children was 19.5 per cent from birth to age 15.

A similar study was undertaken in the city of New Haven to determine the incidence of allergic diseases in the pediatric population.

In our survey, we used the same questionnaire that Dr. Rapaport devised but modified it slightly.

Our study was undertaken under the auspices of the New Haven Health Department in co-operation with the Board of Education. Both the Nursing Staff of the Health Department and the principals of the schools were involved in this study and they in turn distributed these forms to the pupils of the various schools selected for this project. When it was necessary to explain the purpose of the questionnaire, some of the parents were interviewed personally.

A form was sent home with each school child, accompanied by a letter signed by the principal, explaining the purpose of the survey and how to answer these questions. The total number of schools covered were 24, which included three Junior High, three Senior High, 14 public schools and three parochial schools. The total number of children comprising the study was 5,000. Our survey involved the New Haven area and limited itself to the following major allergic syndromes:

1. Infantile eczema.
2. Seasonal Pollenosis.
3. Perennial allergic rhinitis.
4. Bronchial asthma.

This study did not include the following allergic syndromes:

1. Recurrent upper respiratory infection.
2. Urticaria and angiodema.
3. Contact dermatitis.
4. Food allergy.
5. Insect allergy.
6. Physical allergy.

We limited our pediatric population to those under 15 years of age. However, some adults were included, which will be indicated in the Table of Population Analysis.

The following are the results of our survey:

Number of questionnaires distributed	4,675
Per cent of questionnaires returned	55 per cent
Average of 4.8 individuals per family	
Number of families	2,578

Population Analysis

Total individuals surveyed	12,268
Total individuals, birth through age 15 years	4,804
Total individuals, age 15 years and over	6,874
Total number of families	2,578

(With average of 4.8 individuals per family)

Allergy Incidence Analysis

Total allergic individuals—800 or 6.5% of population surveyed
Birth up to 15 years of age—379—or 8%
Allergic individuals 15 years of age and over—421 or 6%

Percentage of Allergic Diseases in Total Study

ALLERGIC DISEASE	NUMBER	PER CENT OF TOTAL ALLERGIC DISEASES
Infantile Eczema	328	33
Asthma	311	31
Hay Fever*	364	36
Total	1,003	100

* Out of a total of 364 individuals with hay fever, only 22 indicated that they had perennial allergic rhinitis. Since the percentage was not of statistical significance, it was not included in our final analysis.

Distribution of Allergic Syndromes

	0-15 YEARS OF AGE		15 YEARS OF AGE AND OVER			
	NUMBER	PER CENT	NUMBER	PER CENT	TOTAL	PER CENT
Monosyndromic individuals	302	80	332	79	634	79
Bisyndromic individuals	62	16	71	17	133	17
Trisyndromic individuals	15	4	18	4	33	4
Total	379	100	421	100	800	100

1.25 allergic syndromes per allergic individual.

ALLERGIC ONSET ANALYSIS

1. Out of a total of 1,000 allergic patients, 151 or 15 per cent of these allergic individuals indicated the age of onset of their allergic disease.

2. It was found that in 68 per cent of 151 patients, the age of onset of allergic disease was from birth to 15 years of age.

3. In 32 per cent, the age of onset was 15 years and over.

4. Only 26 of a total number of 328 cases of eczema indicated that the age of onset was under one year of age.

Discussion

Our survey in the New Haven area disclosed the fact that the incidence of major allergic disease in the pediatric population, based on a study of 379 allergic children was eight per cent. While this determination is lower than other recently obtained estimations, we believe it has validity. Our inability to obtain similar percentages may be due to the fact that the data were collected differently and the questionnaires were answered in a dissimilar

Table II

Age and Sex Distribution of the Sample Population Allergy Survey—New Haven, Connecticut—March, 1959

AGE	TOTAL	MALE	FEMALE	SEX NOT STATED
0-4	909	450	446	13
5-9	1,996	1,006	977	13
10-15	1,899	907	984	8
15-19	1,163	568	588	7
20-44	3,891	1,739	2,137	15
45 Years and Over	1,393	844	538	11
Total Age Not Stated	1,017	493	513	11
Child	581	283	289	9
Adult	427	206	220	1
Not Stated	9	4	4	1
0-9	2,905	1,456	1,423	26
0-15	4,804	2,363	2,407	34
0-15 (includes children age not stated)	5,385	2,646	2,696	43
15-19	1,163	568	588	7
20 Years and Over (includes adults age not stated)	5,711	2,789	2,895	27
Total	12,268	6,007	6,183	78

manner. Also, the economic status of the population sampled might have been a contributing factor. In other words, our questionnaires were filled out at home and then returned to the schools by the children. This survey, however, was a representative sample of the school population based on stratified random sampling.

It is generally accepted that the incidence of allergic diseases is much greater in early childhood than among the adult population. This survey has served to confirm this fact. It has also shown that the incidence of allergic diseases in children from birth to 15 years of age was eight per cent, while allergic individuals 15 years of age and over was six per cent.

While not new, one of the most striking findings in this survey is that relating to the age-sex incidence. We found that asthma is twice as common in boys as it is in girls during the first decade of life. This confirms Peshkin's[6] statement that twice as many males as females are affected with asthma before puberty. Our figures also reveal the fact that practically all allergic conditions are almost twice as common in males as in females between birth and 15 years of age. On the other hand, allergic conditions are twice as common in females as in males from the age of 15 to 45. This seems to parallel the findings of Nelson.[7]

Conclusions

1. Our study confirmed that the incidence of major allergic diseases in the pedatric population is eight per cent.
2. Our study was helpful in calling to the attention of many parents, signs and symptoms referable to major allergic illness.
3. This survey also focused the attention of the Health Department Personnel, Teachers and Parents that repeated upper respiratory infections are not always ordinary colds, but in many cases are related to allergic problems.

Acknowledgments

I should like to express my gratitude first to Dr. Clement Batelli, Health Director of New Haven, who made this survey possible. I should also like to thank Miss Lillian Konick, Health Department Statistician, who spent many hours in compiling our statistics and Mrs. Dorothy Kirk, who was responsible for distribution of the questionnaires and their collection.

Summary

It has been the consensus of opinion that the incidence of allergic diseases among the general population of the United States is 10 per cent. However, very few studies have been made to determine the incidence of allergic disease among the pediatric segment of the population. It is because of this paucity of information regarding the pediatric population that this study was undertaken in the New Haven area.

Our survey showed that the incidence of allergic diseases among the pediatric population is much greater than that of the adult population.

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Editorials

The Case for Political Action

With the recent defeat of Forand-type legislation and the passage by Congress of a much more limited, state-administered program of assistance to the needy aged in meeting their health care costs, there will be a natural temptation for many physicians to sit back and enjoy what is being called "a victory for medicine."

We all owe a great deal to those responsible legislators who, in an election year, withstood extreme political pressure to enact a compulsory national medical plan, and voted instead for a bill of considerable moderation. It is up to us to prove that the final decision of the Congress is a wise one and the Society is already taking suitable steps in this direction.

Organizations such as ours cannot and do not engage in political activity but as individuals who are interested in the public good, we will now do well to support in any way we can those who stood firm against HR 4700 and others who believe as they do.

The active participation of physicians in all civic affairs is of great importance since it should be recognized that the rejection of the Forand Bill means much more than the defeat of socialistic thinking in health matters. Parts of the platforms adopted by both political parties, the public utterances of several labor union heads and the recorded philosophy of certain people prominent in many fields of endeavor, all indicate in varying degrees that there is substantial reason to believe that Americans are being urged to demand as their just due many more guarantees from the government and from their fellow citizens than are to be found in the Constitution or the Bill of Rights.

"As a matter of right," and in return for "a lifetime of work," it is being proposed by some that we and our parents and our children should expect from government uniform assurances of advanced education, comfortable housing, remunerative jobs, good health and the opportunity to enjoy it, and numerous other "benefits" of a similar nature.

Now which one of us, in a moment of daydreaming, will argue that such broad security for everyone is undesirable if only it were possible of achievement? Who of us would wish to hamper the realization of this Utopian concept? Yet under more logical circumstances, which of us really believes that the government can "give" us all these rewards without, as a corollary, demanding something of great value from us in return—our freedom?

Convincing proof of the existence of this corollary is already to be found in many phases of our national life. Consider the Social Security Act as a typical example. The government condones compulsory employment retirement practices, setting the allowable cut-off age for women at 62 years and for men, 65. In return for submission to this abrogation of freedom, the government promises regular monthly cash benefits to the retired person for the alleged purpose of providing him with basic financial security in his retirement and of permitting him to maintain dignity and independence as a senior citizen. So far so good, one might say.

But as amended as recently as last month, this law prohibits the retired person from earning more than $1200 in a year without losing a substantial part or even all of his benefit payments. Thus, those who may depend rather exclusively on OASDI for basic subsistence and who have "contributed" to this so-called insurance plan during "a lifetime of work" find that in order to be granted this small pittance by the government, they must give up their freedom to work and to maintain independence within the limitations of their employability and initiative. Such Indian giving in many cases tends to create pauperism rather than to abolish it; to work against the development of a healthy, self-supporting aging population; to offer many older people a life without purpose and beset by unfulfilled needs of several kinds—including a relative inability to pay for major medical care.

What, then, could be made to appear more necessary, more logical or more politically appealing than to urge these people to turn to "big brother" again, asking the government for yet another benefit—compulsory health services. In return, of course, it is understood that somewhere in fine print would be a clause which explained that freedom to choose one's own doctor, pharmacist or hospital facility would be restricted in accordance with the terms of the "agreement."

Projecting itself into every human activity, this insidious and continuing beseechment to yield to those who govern the power to give and the power to take away has been accurately termed "creeping socialism." It is something which must be fought to the last ditch by those who believe that "conservatism" is not a dirty word but is rather an ideology which has as its principal goal the *conservation* of our national traditions, our basic rights and the constitutional form of government under which Americans have always been assured of greater personal freedom than has ever been enjoyed by the people anywhere else in the world.

This "matter of right" is not something for doctors alone to challenge when good medical care is at stake. It constitutes a universal threat which should deeply concern everyone who believes in the American way. It is an integral factor in the new order which so-called "liberals" are working diligently to bring to this country, even while it is being discredited abroad. Those who listen carefully will find it somewhat paradoxical that the same politicians who are viewing with alarm the enslavement of people on other continents are also pointing with pride at the course being pursued toward the welfare state at home.

A contemporary philosopher recently observed that the "right to try" is the only important undocumented right which ought to be guaranteed to us by our government. It appears almost certain that physicians, most of whom have willingly tolerated many extra years of financial hardship and social deprivation to pursue a career in medicine, will find themselves in agreement with this point of view and will work to elect to office those candidates who share it with them.

W. R. R.

Cigarette Smoking and Cardiovascular Disease

The 1957 report issued by the American Heart Association on smoking and cardiovascular disease indicated that the available evidence at that time was not sufficient to justify conclusions concerning a cause and effect relationship between cigarette smoking and increased death rates from coronary heart disease. The subject however did not end there. Since then considerable additional evidence has accumulated to warrant a new report on this important subject.[1]

A number of medical studies have been completed and nearly all of them demonstrate a statistical association between heavy cigarette smoking and mortality from coronary heart disease. Death rates in middle-aged men from coronary heart disease were found to be from 50 to 150 per cent higher among heavy cigarette smokers than among those who do not smoke.

A statistical association of this type does not prove that heavy cigarette smoking causes coronary heart disease, but the data strongly suggest that heavy cigarette smoking may contribute to or accelerate the development of coronary heart disease or its complications.

Dr. Linus Pauling has reduced this hazard to the following figures. The average shortening of life produced by smoking is four years. Since only half of the population in this country smokes the shortening of the smoker's life is as much as eight years. If the smoker indulges in 40 or more cigarettes a day his life is shortened by 16 years. When broken down to each cigarette, the figures reveal that it takes 4½ minutes to smoke a cigarette and by this maneuver the smoker loses 14½ minutes of his life. These figures take into account only premature death. Disability needs further study.

Because coronary heart disease is the leading cause of death and a major cause of disability in the American population the American Heart Association believes that these studies concerning cigarette smoking and coronary heart disease should be called to the attention of the medical profession, allied health professions, health educators and the general public.

There is a need for more knowledge as to whether there actually is a causal relationship between cigarette smoking and coronary heart disease. It is necessary to learn further what the effects of smoking are in relation to strokes and other important aspects of cardiovascular disease. There is also very great need for information as to the degree of disability that is caused by smoking, not merely mortality. But that smoking is a health hazard is now in the realm of established fact.

L. H. N.

Reorganization of State Department of Health

IV

The reorganization act of 1959 which brought tuberculosis control, rehabilitation, hospital care and mental retardation under an expanded Connecticut State Department of Health expanded the Public Health Council to eight members and named the Commissioner of Health its chairman and administrative head of the department.

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[1] Cigarette Smoking and Cardiovascular Disease. Report of the American Heart Association. Ad Hoc Committee on smoking and cardiovascular disease. Katz, L. N., Allen, E. V., Cherkasy, M., Davis, F. W., and Dawber, T. R. Circulation 22, 160, July 1960.

Of the three offices created in the department, each headed by a deputy commissioner, the office of Public Health continues most of the functions formerly encompassed by the whole department.

Deputy Commissioner of Public Health is Dr. Harold S. Barrett of Manchester, a veteran member of the department and acting Commissioner during the interim prior to Dr. Foote's appointment. It is his responsibility to supervise the office of Public Health, and in the absence or disability of the Commissioner to succeed to his power and duties as administrative head of the department. Neither the Deputy Commissioner of Public Health nor the other Deputy Commissioners are members of the Public Health Council on which the Commissioner represents the entire department. In practice, he sits in on the meetings of this council, and also on the meetings of the two other advisory councils of the department as requested by the Commissioner.

Concomitantly with these changes in overall administrative responsibilities in the department a reorganization of the functions embodied in the office of Public Health was carried out. Five divisions were established instead of the previous four. These divisions comprise Medical Services, Community Health, Sanitary Engineering, Laboratory Services and Preventable Diseases. No major changes have been made in the provisions of these regular services which the department has been providing to physicians and the public. The reorganization reflects the influence of many changing factors, notably those having to do with the steady increase in the average age of our population.

The Medical Services Division includes the following sections: Health Services for State Employees, Occupational Health, Hospitals, Dental Health, Public Health Statistics and Accident Prevention. This last is a new section which to some extent reflects the governor's interest in the automobile injury problem. It has already inaugurated a striking new approach in the Mobile Laboratory for Driver Examination. For its first studies, this laboratory will select those drivers who have had repeated motor vehicle accidents. With their consent, they will be examined to try to bring out any physical or psychological factors which may seem to be contributory to their difficulties. For those deficiencies which seem to be correctible, they will be referred to private physicians for follow up.

The Community Health Division includes these sections: Maternal and Child Health, Crippled Children, Public Health Nursing, Public Health Education and Nutrition. It will be noted that the care of crippled children has been separated from maternal and child health for the first time. This indicates the increasing importance of the rehabilitative work carried out under this section and the expanding care load.

Although the plans for the formulation of district health departments have not materialized, the ideas of the advantages which might accrue from such organizations have not been lost sight of by the department. The sections of Public Health Education and of Local Health Administration of the Division of Preventable Diseases will collaborate in providing consultation services to local part time public health directors. It is expected that a district office team will be set up to provide services on a five-day-a-week basis. Division and section heads will be made available for local groups to discuss all related problems and, if possible, to stimulate local health surveys.

Included in the Sanitary Engineering Division are these sections: Air Pollution, Eating Places and Shellfish, Housing Sanitation, Mosquito Control, Recreation Sanitation, Sewage and Refuse, Water Supplies, and Radiological Waste. The last is a new section although the program is about six years old. This will become of even greater importance if a large atomic power plant should become established in this state. In connection with this program it should be noted that, operating with the section on Occupational Health, problems created by the use of radiation sources in private medical practice are being considered. Shoe-fitting fluorscopes were eliminated in this state over a year ago.

The Laboratory Services Division includes the following sections: Diagnostic Services, Laboratory Standards, Sanitation Services, Toxicological Services and Central Services. The last named provides what might be termed the "Housekeeping" services for the division. The toxicology laboratory, which had been separate, has been pulled into the division in a logical move. A new virus laboratory has been established in the division to keep up with the expanding demand for this type of service due to the many recent discoveries in this field. Representatives of this division have been working closely with the dairy division of the Department of Agriculture, Conservation and Natural Resources in surveying cattle for the presence of "Q" fever. Plans are now also under development for expansion of laboratory services through local health departments.

The new Preventable Diseases Division includes the sections on: Epidemiology, Narcotics Control, Local Health Administration and Venereal Disease Control, and Chronic Disease. It also includes nominally a section on Health and Medical Services for Civil Defense. Since this section has no budget at present it is unable to work with the committees of the county medical associations, as it once planned to do.

In describing the work of the various divisions and sections recently, Dr. Barrett emphasized the number of cooperative projects which cut across department lines. He also brought out the tendency, which is only a local reflection of a national trend, for greater emphasis in using professional personnel from the fields of the behavioral sciences (sociology, psychology, etc.) in evaluating medical problems. This is a significant development of which many physicians are aware, but which it is already felt, in some instances, that they must beware.

As Deputy Commissioner for Public Health, Dr. Barrett has been receiving all the minutes of the meetings of the Public Health Committee of the Connecticut State Medical Society. He has expressed a desire to continue that close and fruitful collaboration on the part of his office with the Medical Society which has marked their relationship during recent years. Certainly both sides have much to gain from a continuation and expansion of this cooperation.

A. J. R.

Hypertonic Urea Solutions

The use of concentrated solutions of urea have contributed significantly to the control of cerebral edema in neurosurgical procedures. It may not be completely innocuous, however. I realize that nearly all neurosurgeons are anxious to keep their patients "dry" after an operative procedure, but this, too, should not be carried to an extreme degree.

In final form, ready to administer, an accepted preparation of lyophilized urea in a solution of invert sugar (Urevert®) contains 90 gms. of urea and 21 gms. of invert sugar in 300 ml. of solution. The molecular weight of the carbohydrate is 342 and the solution will contain 61 mosm. of this substance. The molecular weight of urea is 60 and the solution will contain 1500 mosm. of this substance. In a single unit administered, the preparation provides an osmolar load of 1561 milliosmol for renal excretion.

After any traumatic episode of reasonable magnitude (such as craniotomy) there is a very powerful antidiuretic mechanism operating so that urine water concentration averages 1.0 ml./milliosmol, irrespective of the volume of water provided to the patient. The usual osmolar load (from endogenous metabolism) amounts to 250 milliosmol/$_m2$ on the operative day and 450 milliosmol/$_m2$ on the first postoperative day; fluids are given to "cover" this as 250 ml./$_m2$ and 450 mo./$_m2$ respectively.

If the concentrated urea solution has been employed, then 1.5 liters of intracellular water must be translocated to provide for its excretion—a significant degree of dehydration. Such a dehydration would provide a prerenal azotemia in its own right without the additionally imposed urea load. This probably explains in part the prolonged elevation in the blood urea nitrogen or non-protein nitrogen observed after the use of hypertonic urea solutions—simple inability to clear the urea because of inadequate amounts of available water for excretion.

Use of two units of the material only doubles the problem and its hazards. If neurosurgeons are to continue using this valuable tool, they must be certain to realize the disturbances in water requirements produced by it.

M. A. H.

Fighting the Fomites

The death of Dr. Samuel J. Crombine calls to mind his substantial accomplishments in the field of public hygiene, for he waged an unceasing warfare on flies, communal drinking cups, roller towels, and indiscriminate spitting. As Robert Louis Stevenson once said, "Man does not live by bread alone but mostly by catchwords," and Dr. Crombine originated "Swat the fly," "Don't spit on the sidewalk" and other slogans.

It is true that while infections involve two main factors, the infecting agent and the infected individual, there are various ways in which the two may be brought into contact: droplet infection, carriers, insect vectors, sexual contact, infected food and drink and fomites. It is also true that dosage and virulence in the case of infecting agents and varying degrees of resistance in individuals play a commanding role.

One has only to look back a generation or two to recall the discovery of many of the facts which led to the diminution of the incidence of many infections. The Spanish-American War with its typhoid epidemics and the resultant Vaughan, Novy and Shakespeare Commission with its "fingers, food, and flies" slogan, the discovery of carriers, "Typhoid Mary" for example, Stiles' demonstration of soil contamination and foot infection in the origin of hookworm disease, the "Men in white" and the mosquito transmission of yellow fever. These and many others are examples leading to preventive measures most of which preceded, except in the case of smallpox, preventive inoculation.

It was inevitable that in the course of human progress newer inventions involving agents usable by many different people would arise. Recently the possibility of infections through the telephone receiver and mouthpiece has been studied by R. E. O. Williams.* Samples collected with cotton swabs were taken from public telephone booths, from office telephones with routine cleaning, and others which were not periodically cleaned. The results were somewhat astonishing, for, with the exception of staphylococcus aureus and very rarely pneumococcus, no pathogens were found. The aureus was isolated from 7.2 per cent of the mouthpieces and 17.6 per cent of the earpieces, in large numbers in about one third of the latter. No tubercle bacilli were found on any instrument. The telephones subjected to routine cleaning in offices were noticeably more clean looking but showed no noticeable divergence in contamination from the uncleaned ones. All of which suggests that we must still be on the alert for possible fomites.

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* London letter. Jour. Amer. Med. Assn., 1954, *155*, 1094.

G. B.

Connecticut State Joint Council to Improve the Health Care of the Aged

At a meeting of the Connecticut State Joint Council to Improve the Health Care of the Aged, which is composed of representatives of the above organizations, held at the Institute of Living on September 14th, 1960, the following resolution was passed:

"It was proposed, seconded and passed that this State Joint Council draw the attention of the parent bodies to Dr. Kent's report of the unanimity of the State Commission on Services for Elderly Persons in suport of Forand type of legislation. This report was put out immediately prior to the time of debate on Congressional Bills for the medical care of the aged as a unanimous report from Connecticut. Since there appears to be considerable confusion in the public mind that the State Commission on Services for Elderly Persons was speaking of the sentiment of the Advisory Commission for the White House Conference on Aging, this Council urges the parent bodies to call attention of the Governor in a public manner to the fact that this does not represent the unanimous opinion of the Advisory Commission on State Planning for the White House Conference. This is to be communicated to the parent organizations as soon as possible."

Animal Experimentation

Animal experimentation is fundamental if our knowledge of disease, of age changes, and of life processes are to be increased. Too few people realize that all new medicines require exacting preliminary tests on animals before they are considered safe for human beings. This general lack of information on the part of the public is in part the fault of the medical scientists who, in the past, have been more concerned with reporting observations and facts rather than the details of the procedures required in order to establish the facts. But the public also is interested in fact more than how the fact came about.

All professional people of Connecticut should be interested in the recent problem arising from the State's existing dog pound laws. These laws leave to local option whether or not dogs are made available to research laboratories. When a municipality refuses to supply animals from their shelters or pounds a hardship is inflicted on both laboratories and animals. The laboratories are losing an inexpensive and available source of research material; the animals, which then must be obtained from greater distances, suffer through such unnecessary travel.

Facilities and conditions for maintenance of animals in our research laboratories and hospitals are being improved constantly. Teaching young men and women the principles of surgery and medicine demands the continued use of animals and of animals maintained under optimal conditions. In 1958 over 14,000 dogs were killed in dog pounds or shelters in Connecticut. The need for dogs for medical research and instruction is far less than this number, probably not more than 10%.

No pets are wanted in research laboratories. The greatest lovers of dogs are often in the families of professional people. Rather than murder at public expense 14,000 dogs to serve no useful purpose, to themselves or to man, sufficient numbers must be made available for research and teaching. To raise dogs of sufficient size and to suitable ages within a laboratory costs approximately $135.00 per animal. If 1,000 dogs were used for research and teaching in Connecticut each year, and this is a modest number, the costs of $135,000 must be added to the costs of research and medical care. Can this be justified by those who raise funds for research? If we are to continue to develop new information, acquire new knowledge and understanding and give better health services and meet the scientific competition from foreign countries—Do we need to mention names?—we must abet research in every manner. The Connecticut Veterinary Association has been most forward in supporting a change in our legislation by publishing the following resolutions:

"The Connecticut Veterinary Medical Association recognizing the cruelty and inefficiency existing under the methods now available in procuring dogs for laboratories or institutions which require such animals for medical, surgical, or other scientific research, declares itself in favor of legislation which will not only result as much as possible in the humane handling, kennelling and care of such animals but also in making more certain an adequate and dependable supply of acceptable animals at a reasonable price to such laboratories."

Inspections of laboratories may be necessary but they should be made by qualified personnel. Such inspection may be of service to investigators and teachers as well as of value in controlling or regulating.

We can find encouragement in the fact that we have received support from the public wherever we have explained our position. Thus, a poll conducted by the National Opinion Research Center of the University of Chicago, Chicago, Illinois, under a grant provided by the Rockefeller Foundation, New York, New York, showed that 85 percent of the general population favor the use of live animals in medical teaching and research. Eight percent were opposed. In spite of the distractions and annoyances caused by irresponsible claims and charges, we can face the future, assured of the service rendered by animal experimentation and confident of the understanding of our fellow citizens.

Value Of Unsaturated Fats Depends On Rest Of Diet

Vegetable oils will produce a lowering of the blood cholesterol levels only when combined with a diet that is sharply limited in the use of saturated or "hard" fats, three New York researchers said recently.

The addition of unsaturated fats to the diet has frequently been suggested as a way of reducing blood cholesterol levels and thereby perhaps helping to prevent heart disease.

However, unsaturated fats will not help unless the diet is restricted in saturated fats, such as beef fat, according to Dr. Richard Perkins, Dr. Irving S. Wright, and Barbara W. Gatje, B.S., of the vascular section of the New York Hospital-Cornell University Medical College department of medicine.

Writing in the current Journal of the American Medical Association, they reported giving two types of unsaturated fats—safflower oil and corn oil—to 22 addition of the vegetable oils. The oils also contained pyridoxine (Vitamin B6) which is thought to be involved in fat metabolism.

The students followed their normal diets with the medical students for periods of seven weeks.

As had been the case in previous studies, there was a considerable variation from week to week in the cholesterol levels of individuals, the researchers said. There was a slight downward trend in the levels, but at no time was the decrease statistically significant.

"There is little doubt," the researchers said, "from the reports of other experimenters that the use of either corn oil or safflower oil, substituted for most of the fat in the diet, will produce a significant decrease in serum cholesterol levels.

"But in this study, the results of the use of these oils as supplements to a regular diet were not significant enough to justify this as a therapeutic procedure."

In conclusion, they said, "Significant results should not be expected from the use of corn oil or safflower oil, even with the addition of pyridoxine, as a supplement to the usual American diet. . . . This study reemphasizes the fact that, if one wishes to produce a significant lowering of the serum cholesterol level, unsaturated fats should be used only when combined with a diet which sharply limits the use of saturated fats."

Drug for Diabetics Aids Victims of Parkinson's Disease

Tolbutamide, a drug customarily prescribed only for diabetics, has been used with surprisingly good results in the treatment of Parkinson's disease by two physicians.

Writing in the current Journal of the American Medical Association, Drs. Edwin W. Gates, Niagara Falls, N. Y., and Irving Hyman, Buffalo, N. Y., told how the drug had helped 15 persons with Parkinson's disease.

The disease attacks the nervous system causing a stooped posture, stiffness and slowness of movement, rigidity of facial expression, and a tremor of the limbs.

"In some patients there was a decrease in tremor, and in others the most marked effect was the lessening of the rigidity," they said. "Most of the patients given tolbutamide were benefited to the extent that they required less care and could perform many more daily living tasks."

The two physicians began using the drug to treat patients with Parkinson's disease after one of them noted a marked decrease in the tremor of the hands and fingers of a 57-year-old diabetic given tolbutamide in 1958.

There is no known cure for Parkinson's disease. Antispasmodic drugs are the usual treatment to alleviate the symptoms. Tolbutamide is a synthetic hypoglycemic agent which lowers the blood sugar level.

The physicians said the significance of their findings is not clearly understood and further research is needed.

THE PRESIDENT'S PAGE

AMERICA is now in the homestretch of a momentous election race. Have you studied the candidates and issues carefully? Have you done your best to let others know where you stand politically? Are you actively working to help get out the vote and to encourage support for the political party and the candidates of your choice? Have you made clear to your patients your opinions as to which party and which candidates will strive, if elected, to protect your patients from schemes which could lower the quality of their medical care?

Less than a month remains before the voters will select the winners. The newly chosen leaders will have in their hands the power to determine how you will practice medicine. It is one thing to try to convert misguided public officials after they have been elected; but a better and surer approach is to choose the right officials in the first place.

The Connecticut State Medical Society per se cannot take a stand with respect to any particular candidate in this election campaign. On the other hand, each individual physician can play an active role. He should make certain that he and all eligible members of his family go to the polls. He should encourage his patients and friends to vote. He can display campaign posters and literature in his reception room. He can tell individuals and groups what he thinks about candidates and issues. He can support the party of his choice financially and with active work.

It has been said that most physicians are "ultraconservative" and are opposed to "liberal" trends in our government. Catchwords are tricky. The term "liberal" in politics used to be applied to persons who favored democratic or republican forms of government as distinguished from those with all-powerful rulers (kings, czars, dictators, etc.). "Ultraconservative" (Tory, monarchist, etc.) as an opposite term, used to signify persons who supported the extreme prerogatives of central rulers. Definitions similar to these will be found in most standard American dictionaries. Most physicians as strong supporters of individual freedoms and strong opponents of an all-powerful central government could properly be called "liberals".

In these topsy-turvy times, however, the label of "liberal" in politics is claimed by people who, consciously or otherwise, foster an all-powerful central government with compulsion displacing individual freedoms. "Conservative" and "ultraconservative" have been flip-flopped by such topsy-turvy "liberals" into opprobrious terms to fling at those who oppose them. In the light of such a semantical inversion, most physicians would not like to be called "liberals".

Space will not permit a detailed exposition of semantical twists which have been given to the term "socialized medicine". Perhaps it will suffice to point out that to a large segment of the public this term no longer has the undesirable connotations which it has for most physicians.

Let us avoid catchwords and slogans which permit inferences different from what we are trying to get across. Let us say clearly what we believe in. Furthermore, let us say it now. Election day is just around the corner.

JOHN N. GALLIVAN, M.D.

Special Article

Medicine's Relation to Voluntary Health Insurance

Kenneth Barrows*

Editor's Note: *The desires and demands of the public for expanding coverage by voluntary health insurance presents major problems for both the profession of medicine and the insurance industry. Here is a statesmanlike presentation of the problem by a distinguished insurance executive.*

In a free society, the survival of any institution, whatever its nature, rests upon its ability to satisfy the wants of the people it serves. When it fails to satisfy these wants, it gives way to something else. In the case of voluntary health insurance, that something will be compulsory government insurance, and with it, socialized medicine.

Why is this so? There are many reasons. Medicine has made brilliant progress. It can do today what was impossible yesterday. The American people know medicine's achievements. Naturally, they want the benefits. Their desires, by virtue of advances in education and standard of living, have been transformed into a demand. The demand must be met.

Unfortunately, modern medicine is expensive. Perhaps expensive is not the word to use, for it connotes a price, and life and health are priceless. In any event, it it costly by yesterday's standards. In the past decade, according to the Bureau of Labor Statistics Cost of Living Index, the cost of medical care has risen twice as fast as the cost of living generally. This figure does not tell the whole story, for it reflects only the cost of services, not their wider use. The average man cannot pay the bill out of pocket. We have become, more and more, a nation of the middle class, accustomed to funding every major expenditure through some sort of weekly or monthly installment plan. Few of us, far less than one in ten, are in a position to build up reserves sufficient to meet the cost of serious illness without financial catastrophe.

In the light of this situation, there must be an effective financing device for enabling the average man to avail himself of the medical care his family wants and needs. So far, we have relied, in characteristic American fashion, on voluntary processes. We have looked to the nation's insurance carriers, its Blue Cross-Blue Shield plans and other private groups to do the job. It is now charged, through measures like the Forand Bill, that the voluntary processes are inadequate and must be supplemented by government intervention. Supplementation, in this context, means ultimate substitution.

Financing Medical Bills

It has become increasingly clear that if voluntary health insurance is to continue as the mechanism for financing our medical bills, it is going to take the collective efforts of all who are interested in its preservation. It will take the active support of the country's doctors and hospitals. There has been gratifying evidence that this support is forthcoming. Good working relationships have now been established between the insurance industry, operating through the Health Insurance Council, and organized medicine at all levels, national, state and county. We, that is, those engaged in the insurance business, have been impressed with not only the willingness of the medical profession's leadership to work with us, but also its insight into our problems. The development of these relationships has brought into focus the fundamentals that bind free medicine and insurance together. Much publicity has been given our reactions to the Forand Bill. These reactions have forcefully demonstrated the compatibility of medicine and insurance in things that we do not want. Still more important; they have brought out our compatibility in the things we do want. The doctors want to provide top quality medical care for all who need it. We, the insurers, want to put that kind of care within reach of the average man, through providing financing devices suited to his budget.

Role of Insurance and Physicians

The relationship between medicine and insurance goes beyond the objective just described. Medicine and insurance, notwithstanding the preference of both to the contrary, influence one another. The kind and amount of the patient's insurance may determine whether he goes to the doctor at all. It may determine his choice of the doctor and the

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kind of treatment he gets. By the same token, medical practice determines the kind, amount and cost of insurance coverage written. It is axiomatic that health insurance does not manufacture dollars. It only distributes them. It is no great exaggeration to say: The insurer collects the money. The doctor, through the treatment he prescribes, spends it.

Medicine and insurance share a common concern over the rising cost of medical care. Unfortunately, for both groups, constructive consideration of the problem has been obscured by events like last year's Blue Cross rate increase hearings, which brought forth such loud and widely publicized outcries of abuse, mismanagement and inefficiency. Accompanying these charges were demands, particularly from labor, for vigorous policing of hospital care. The insurance industry derived little comfort from the hearings. By and large, those who were so critical of Blue Cross operations are equally critical of the so-called commercial insurer, perhaps more so. And, by and large, these same critics are exponents of compulsory government insurance. Although the insurance industry is in constant competition with Blue Cross-Blue Shield, just as its members are in constant competition with one another, its leaders regard Blue Cross-Blue Shield as a vital component in the voluntary health insurance picture. We are quite willing to squabble with them on an intra-family basis, but should be quick to rise to their defense when they are subjected to irrational attack. There is much for both the insurance industry and Blue Cross-Blue Shield to do. Moreover, the differences between the two systems, though technically narrow, are sufficient to give the public a choice.

The rising cost of medical care is a complex subject. It needs sober study, not passion. Beyond question, abuse has been a factor, but it is only one among many. We shall not come to grips with the problem by indiscriminate accusations of exploitation. We shall come to grips with it only when we examine, with constructive purpose in mind, the others, scentific, social and economic.

Public Understanding Needed

One thing is certain. We must give the public a better understanding of the whys and wherefores of medical costs. In most things, the average man has some basis for comparison. He knows, roughly, at least, what he will have to pay for the things he wants. He can choose the expenditure that will bring him the most gratification, and can bargain with those who purvey it. None of this is true, in any practical sense, of medical care. Few people know what charges to expect. The patient cannot choose between medical care and something else. He cannot bargain. Translated into health insurance operations, this means the insurance buying public is without satisfactory guides for determining the kind and amount of protection it needs, for judging the equity of either medical fees or insurance premiums.

When it comes to publicity, virtue runs a poor second to vice. It has been my observation, as an insurance company officer charged with the responsibility of administering millions of dollars of health insurance claims annually, that the rank and file of men in the medical profession are consistently fair and reasonable in matters relating to fees. It is a small minority who, through avarice or inflated ego, exploit their patients and insurers. How much press has the conscientious conduct of the rank and file of medicine received? Almost none. How much has the small minority? Plenty. In a way, this is the doctors own fault. He has been reluctant to let the public know what he considers reasonable fees, for fear that by so doing he will saddle himself with fixed fees.

The insurance industry does not want to fix the doctor's fee. It is no more qualified to determine proper compensation for medical services than the doctor is to calculate insurance premiums. The schedules the insurance industry uses are intended only as limits of liability, required to relate premiums with benefits, and not as an evalation of the doctor's services. This is evident from the fact that every insurer offers its schedules in a number of multiples. The policyholder chooses the multiple suited to his needs. Unquestionably, he could make a better choice if he knew more about what he needed.

Medicine and insurance share a desire for the preservation of their freedom of thought and action. They share a belief that their patron, the patient and the policyholder, is a better judge of their merits than a government bureau. They share a conviction that the stimulus of individual initative, imagination and enterprise will produce far better results for the American people than the strictures of a government rule book. Strangely enough, the freedom we seek to preserve may, unless wisely exercised, work its own undoing. Each of us, the country's thousands of doctors and hundreds of insurers, is presently free to chart our own course. Although we have our societies and associations, we do their bidding only as we see fit. There is no mechanism for compelling us to follow a given line of conduct, nor do we want one. If we are to work together for the accomplishment of a common objective, for example the curtailment of the rising cost of medical care or adequate protection for the aged, it must be voluntary.

There is not much question whether we want to work together. We must. The question is whether we have time. As Dr. Gunnar Gundersen put it a few months ago: "Now is the time for action, for in two years it may be too late for the private practice of medicine and the system of voluntary personal insurance."

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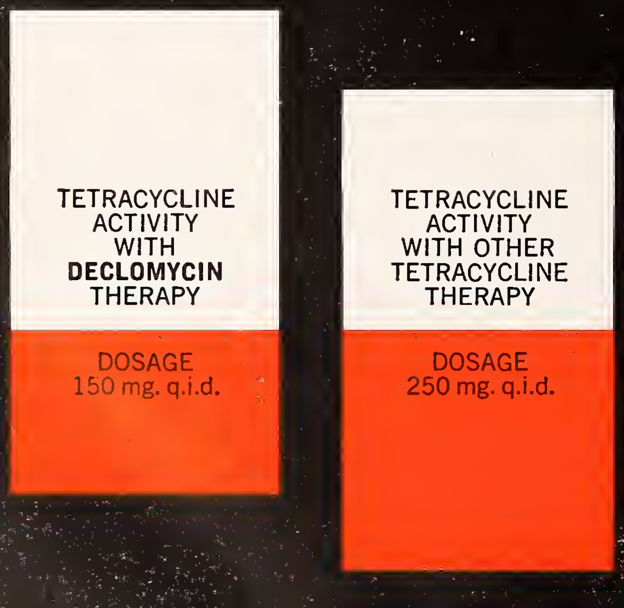

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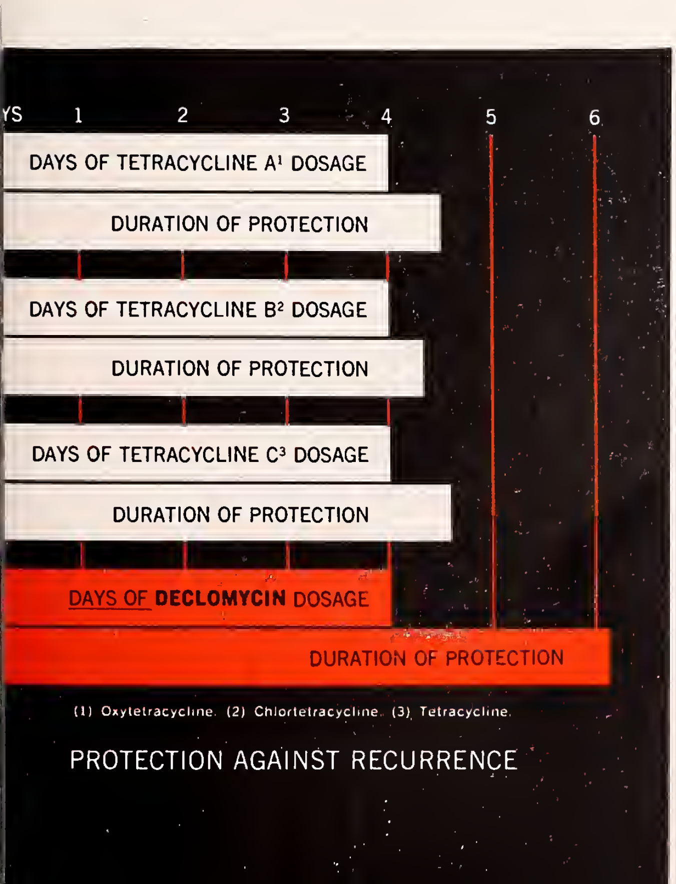

CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.
PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.
SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

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COUNCIL MEETING

Thursday, September 8, 1960

A meeting of the Council was called to order by the Chairman, Dr. Gilman at 2:30 P.M. on Thursday, September 8, 1960. Present in addition to the Chairman were Drs. Gallivan, Feeney, Goldberg, O'Connor, Caplan, Cullen, Scully, Abbot, Bradley, Cornwell, Katzin, Buckley, Rentsch, Murray, Gorman, Gevalt, Grant, Phillips, Purnell and Chartier. Also present: William R. Richards M.D., General Manager. Absent were Drs. Hess, Gardner, Schiavetti, Pollock, Davis, Weise.

MINUTES OF MEETING, August 10, 1960. It was VOTED to accept the printed minutes of the Council meeting of August 10, 1960.

COMMITTEE ON THE AMEF. It was VOTED to accept, with regret, the resignation of Charles E. Jacobson, Manchester, as Chairman of this committee, and it was further VOTED to appoint Walter P. Kosar, Hartford, as Chairman, to complete Dr. Jacobson's unexpired term.

AMA RESOLUTION NO. 2. A resolution dealing with the organizational and functional aspects of The National Foundation, adopted by the AMA House of Delegates in June, 1960, was presented for consideration. Following some discussion, it was VOTED to defer action on this resolution until a committee, appointed by the Chairman of the Council, has reported on the organizational arrangement of The National Foundation in this state. The Chairman appointed Max Caplan, Meriden as a committee of one to report on this matter.

CONNECTICUT NUTRITION COUNCIL. It was VOTED to authorize payment of dues for September 1, 1960 to August 31, 1961 in the amount of $5.00 to this organization.

PRESENTATION OF PLACQUE TO MRS. CREIGHTON BARKER. In response to an invitation, Mrs. Barker joined the Council for the formal presentation of a placque recognizing the contributions of Creighton Barker, New Haven, deceased to the medical profession in general and to the American Medical Association and the Connecticut State Medical Society in particular. The text of the scrolled resolution was presented in the August, 1960 issue of "Connecticut Medicine" under the Council minutes of June 23, 1960.

John N. Gallivan, East Hartford, President of the Society, accompanied the formal presentation with remarks which gave further recognition to the valuable contributions made by Dr. Barker to the Society and to many of its individual members.

Mrs. Barker, in responding, expressed pleasure at receiving this memento and assured the Council of her desire and willingness to serve the Society in any way in which she might be called upon.

AD HOC COMMITTEE ON COUNCIL OF N.E. STATE MEDICAL SOCIETIES. A committee composed of Ellwood C. Weise, Sr., Chariman, Frederick C. Gevalt, Sharon, Oliver J. Purnell, Rockville, Oliver L. Stringfield, Stamford and William R. Richards, New Haven, ex-officio, appointed to carry out the directive of the House of Delegates in April, 1960 to review and re-examine the rlationship between the Connecticut State Medical Society and the Council of the New England State Medical Societies, gave a report containing certain recommendations. It was VOTED to accept the report of the committee and adopt the recommendations contained therein; to transmit the document to the House of Delegates at its next meeting with a recommndation that the report be accepted and the recommendations adopted by the House; and that, pending action by the House of Delegates on this report and these recommendations, the Council of the New England State Medical Societies be notified of these actions of the Council as information and that the governing bodies of the other five constituent state societies also be notified. The report follows:

"The Committee recommends:

1) That the Connecticut State Medical Society adopt the position that the principal purpose of the Council of the New England State Medical Societies, despite its alteration by precedent and bylaw changes, is and should continue to be that defined at the time of its organization: "to bring about

closer cooperation between the state medical societies in New England in the development and maintenance of the highest standards in the conduct and administration of medicine, and in the furtherance of plans to improve the health of all the people in the New England states."

2) That, irrespective of how many "representatives" of each constituent state medical society may be classified as members of the New England Council, there be *only three voting representatives* of each constituent society allowable at any one meeting.

3) That for the Connecticut State Medical Society, these three voting representatives be the three "Delegates to the Council of New England State Medical Societies" (or officially designated alternates), annually elected by the Council of the Connecticut State Medical Society.

4) That, beginning in 1961, the Council of the Connecticut State Medical Society designate one of these delegates to be Chairman of the delegation and that the designated chairman be charged with the responsibilities of acting in a liaison capacity between the two organizations and of preparing and filing a "Report of the Delegates to the Council of the New England State Medical Societies" at each annual meeting of the Society.

5) That the Connecticut State Medical Society adopt the position that in all matters calling for a vote of the *voting representatives* (as defined in recommendation No. 2), the original Method of Procedure of the New England Council be adhered to: "Each member Society shall be entitled to have three delegated representatives present at each meeting but shall have *only one vote* (as a Society)."

6) That the Connecticut State Medical Society adopt the position that any proposal of the Council of the New England State Medical Societies which calls for joint action, support or participation by each and all of the constituent societies must be submitted to the governing bodies of those societies for a decision to approve or disapprove of the proposal and that, unless given specific authorization to do so, voting members of the constituent organizations *shall not* cast their unit votes for or against such proposals until their respective governing bodies have made a decision on each proposal submitted and have instructed their representatives as to the nature of that decision.

7) That the Connecticut State Medical Society adopt the position that if any constituent organization rejects a proposal of the New England Council within 90 days from the date of submission to the constituent organizations, and so informs the Executive Secretary of the New England Council within that period, such proposal must be reconsidered at the next meeting of the Council of the New England State Medical Societies.

8) That, apart from the payment of annual dues to the Council of the New England State Medical Societies, the Connecticut State Medical Society consider itself to have *no* commitment to lend financial support to any activity of the New England Council unless, in addition to approving a submitted proposal, the Council of the Connecticut State Medical Society also votes to authorize the expenditure of specific amounts of general funds as the Society's proportionate contribution toward meeting the actual costs associated with that proposal; and that when proposals of the New England Council are submitted to the constituent societies for consideration (as described in recommendation No. 6), all proposals be accompanied by careful estimates of possible costs, if any, attendant to their implementation.

9) That only the three elected delegates to the New England Council (or designated alternates) be reimbursed for reasonable expenses incidental to their attendance at the two regular meetings of that organization held each year.

10) That other members of the Connecticut State Medical Society, who may be requested to or who elect to participate in activities of the New England Council, be reimbursed for expenses attendant to such participation entirely at the discretion of the Society's Council, and only under the following conditions:

(a) Participation has been authorized and requested by the Council of the Connecticut State Medical Society incidental to approving a submitted proposal of the New England Council, or

(b) Prior authorization for reimbursement has been obtained from the Society's Council, either on request of the New England Council or of the member of the Society concerned.

11) That this report be the official report of this committee but that any member of the committee may submit a minority report, in part or in whole, if he so desires. (This recommendation is made for the reason that not all members were present at both meetings of the committee.)

Mr. Chairman:

IT IS MOVED: That the Council of the Connecticut State Medical Society accept this report of the ad hoc committee to Review and Re-examine the Relationship Between the Connecticut State Medical Society and the Council of the New England State Medical Societies, and adopt the committee's recommendations contained therein, and it is further

MOVED: That the Council of the Connecticut State Medical Society transmit this report and these recommendations to the House of Delegates of the Connecticut State Medical Society at its next meeting with the recommendation that the report be accepted, and the recommendations be adopted, by the House of Delegates, and it is further

MOVED: That, pending action by the House of Delegates on this report and the recommendations contained therein, the Council of the New England State Medical Societies be notified of these actions of the Society's Council, as information, and that the governing bodies of the other five constituent medical societies be identically notified."

CONNECTICUT MEDICAL SERVICE, INC.

(A) Pursuant to the action of the Council on August 10, 1960, Dr. Gilman reported on the efforts he had made to arrange a joint meeting of the CMS Board of Directors with the Council for the purpose of discussing the position of the State Insurance Department in relation to CMS, as reported to the Council by the Committee to Confer with the Insurance Commissioner. Dr. Gilman described the proceedings between ad hoc representatives of the Council and the Board who met on August 22, 1960, the gist of which was that the CMS component felt a joint meeting such as requested by the Council would serve no useful end at this time. He therefore recommended that he be authorized to postpone indefinitely any further attempts to arrange a meeting between the Council and the CMS Board. The Chairman also reported that the CMS representatives had been anxious to discuss matters relating to a new contract on August 22nd and that although the Council representatives had disclaimed any authority to engage in definitive investigations of this matter, they had been interested to learn of a somewhat novel concept in service benefits eligibility which the Board would soon take under consideration with a view to developing a new contract based on that concept.

Following some discussion, it was VOTED to accept the report of the Chairman and to adopt his recommendation that a joint meeting of the two bodies be postponed indefinitely. (AMB 8/10/60 "C")

(B) At the Council meeting of August 10, 1960, Dr. Gallivan had been requested to prepare a suitable resolution which would encompass the opinion of the Liaison Committee formulated on July 12, 1960 and the discussions of the Council on this opinion held at its last meeting. The subject matter concerns the responsibility of the CMS Medical Advisory Committee with respect to the development of new contracts versus the responsibility of the CMS Board of Directors in this area. The opinion of the Liaison Committee was reported in the Council minutes published in the September issue of "Connecticut Medicine." It was VOTED to adopt the resolution submitted by Dr. Gallivan which reads as follows:

Whereas, CMS bylaws, as amended through March 24, 1960, in Article V, Section 4, paragraph b, specify that prior review of any proposed new subscribers' contracts or of any proposed new contracts with participating physicians or of any proposed major changes in CMS bylaws is a duty of the CMS-CSMS Liaison Committee; and

Whereas, said bylaws, in Article VII, Section 5, paragraph a, limits the Medical Advisory Committee to the determination of specified matters arising out of such subscribers' contracts and contracts with participating physicians as are already in force; and

Whereas, said bylaws, in Article VII, Section 5, paragraph b, impose only liaison and advisory duties upon the Medical Advisory Committee; and

Whereas, said bylaws, in Article VII, Section 5, paragraph c, limit the Medical Advisory Committee's "opportunity of prior review" to representations concerning professional or medical matters which the Corporation proposes making to subscribers or the public; and

Whereas, said bylaws provide the Medical Advisory Committee no power or duty to develop any proposed new subscribers' contracts or any proposed new contracts with participating physicians or any proposed major changes in CMS bylaws, and furthermore, make no provision for prior review by the Medical Advisory Committee of such new proposals; and

Whereas, the CMS-CSMS Liaison Committee on July 12, 1960 went on record as favoring the interpretation that the Medical Advisory Committee does not have the responsibility of developing new CMS contracts but shall act in an advisory capacity in the development of new CMS contracts; therefore be it

RESOLVED: That, it is the opinion of the Connecticut State Medical Society that the CMS Medical Advisory Committee does not have the responsibility of constructing any proposed new subscribers' contracts or any proposed new contracts with participating physicians or any proposed major changes in CMS bylaws but should supply counsel on matters pertaining thereto when consulted by authorized representatives of the CMS Board of Directors.

Motion to amend the resolution so that it would read "It is the opinion of the Council of the Connecticut State Medical Society," was lost.

In adopting this resolution, some concern was expressed by individual members of the Council that the action might be interpreted and reacted to unfavorably by at least a portion of the CMS Medical Advisory Committee but no positive suggestions were made as to how this possibility could be effectively avoided.

(C) Dr. Gallivan, Chairman of the Committee to Confer with the Insurance Commissioner, reported that for the present it was planned to postpone a meeting of this committee and await a report from the CMS Board as to the progress being made toward the development of a new contract. This progress report was accepted as information.

PUBLIC RELATIONS ASPECTS OF COUNCIL PROCEEDINGS. The General Manager reported on several examples of a problem which he feels is of concern to the Society. These indicated that certain members of the press are somehow obtaining detailed information about proceedings of the Council, committee reports, etc., even before members of the Society or the governing bodies of the county associations have been informed. Following a rather prolonged discussion of the confidential nature of Council meetings vs. any possible curtailment of freedom of speech or freedom of the press, it was VOTED that the General Manager be granted the privilege of arranging for the attendance of public relations staff personnel and secretarial assistance at Council meetings for the purpose of rapidly disseminating newsworthy information regarding actions of the Council to all communications media, such information to be made available to these media at the discretion of the General Manager and/or the Chairman of the Council.

H.R. 12580, THE MILLS BILL. Dr. Richards brought the Council up to date on the latest federal legislative developments in the matter of medical care of the aged. He stated that HR 12580 (The Mills Bill), as amended by the Senate Finance Committee, had been passed by both bodies of Congress and it was expected that it would be signed into law by the President. Although the specific details of the bill are not yet available, it is clear that each state is expected to develop a program through which medical costs will be met for people 65 years of age or older who are "medically indigent." It is understood that each state program will require the approval of the Secretary of Health, Education and Welfare before funds through federal-state grants are made available.

Pointing out that the medical profession throughout the country had vigorously opposed compulsory national health insurance for the aged and, on the other hand, had strongly supported the general concept encompassed in the Mills Bill, Dr. Richards reported that medical organizations everywhere feel that the profession has a deep responsibility to see that state-administered programs for assisting the needy aged work effectively, particularly in such matters as freedom of choice of physician and hospital, maintenance of dignity and self-respect and other related matters. It is felt that the medical profession must assume the responsibility of leadership in drafting the method of administration.

Acting upon this information, the Council took the following actions:

It was VOTED that the members of the Society's Committee on Third Party Payments with such other members of the Society as the Chairman of the Council may deem advisable, constitute a committee to develop plans for the administration of "medical care of the aged" in Connecticut and it was further VOTED that the Chairman of the Council appoint Thomas M. Feeney, Hartford, as Chairman of this new committee. The Chairman appointed the following: Thomas M. Feeney, Hartford, Chairman, I. E. Blodinger, New Haven, Kenneth F. Brandon, Hartford, James R. Miller, West Hartford, Ellwood C. Weise, Sr., Bridgeport.

It was VOTED that the President of the Society and the Chairman of the Council take immediate steps to arrange a conference with Governor Ribicoff to discuss the "medical care of the aged" program in Connecticut and to inform the Governor of the formation of a committee to develop plans for the administration of "medical care of the aged" in this state.

COMMITTEE ON PUBLIC RELATIONS. (A) The Council received as information a report on the plans of the Public Relations Committee to initiate a "Press Awards" project in the near future in the related areas of news reporting, editorial writing and feature articles on medical matters. This project was approved by the House of Delegates on April 26, 1960. The Committee further reported that the amount of $600 would appear in its budget for 1961 to cover the costs of making appropriate cash and placque awards.

(B) Acting on a recommendation of the Committee on Public Relations which reads: "It is moved that the Public Relations Committee go on record as favoring the retention of permanent legal counsel and a qualified lobbyist, together or separately, and that the Council be appraised of this action," it was VOTED that the President of the Society, the Chairman of the Council, the Chairman of the Committee on Public Relations and the General Manager constitute a committee to consider the matter of engaging legal counsel and/or a lobbyist for the Society and that this committee report its findings and recommendations to the Council at its next meeting.

SEMI-ANNUAL MEETING OF THE SOCIETY. The Council was informed that the date and place of the Semi-annual Meeting of the Society will be held at the Hunt Memorial Building in Hartford on December 6, 1960 at 2:30 P.M.

ADVISORY COMMITTEE TO FEDERAL EMPLOYEES HEALTH BENEFITS PROGRAM. In response to an action of the Council on August 10, 1960, Harold M. Clarke, New Britain, Chairman of the Advisory Committee to the Medicare Plan, made the following reply:

"I believe the Committee as presently constituted can perform the same functions regarding the Federal Employees Benefit Program as it presently carries out in regard to the Medicare Program. If experience should indicate that additional members are desirable, I will let you know."

COMMITTEE ON MEDICAL EDUCATION AND LICENSURE. In a letter from Stanley B. Weld, Hartford, Secretary to the Connecticut Medical Examining Board, the Council was requested to consider whether or not it would be possible to authorize payment of the expenses of more than one member of the Committee on Medical Education and Licensure to attend the Annual Congress on Medical Education held each year in Chicago in February.

After considering this matter, the Council VOTED to authorize the attendance of one member of the Committee on Medical Education and Licensure at this conference and to reimburse that member for expenses incurred in such attendance.

REPORT OF COMMITTEE ON INVESTMENTS. I. S. Goldberg, Torrington, Treasurer, reported that the Committee on Investments recommended the engagement of an attorney for the purpose of assisting the committee in managing the Society's investment program. It was VOTED to refer this recommendation to the committee established in item 10 (B) of these minutes, which is to consider the matter of engaging legal counsel, etc. for the Society.

RECOMMENDATIONS OF COMMITTEE ON PUBLIC HEALTH. It was VOTED to approve the following recommendation submitted by this committee: "That a pilot testing program in various areas of the state be set up to have all infants at about 6 weeks tested for abnormal urinary substances."

It was further VOTED to approve "that it be recommended to the Milk Regulation Board that the higher temperature necessary to kill the richettsiae of Q fever be required for pasteurization of milk and that raw milk not be permitted to be sold in the state unless tested for evidence of richettsiae of Q fever."

CONFERENCE ON HOMEMAKER SERVICES. In response to a request from Miss Gertrude Norcross, President of the Connecticut Health League, it was VOTED that William R. Richards, New Haven, a delegate to the Connecticut Health League, be appointed as the Society's representative to participate in the conference on Homemaker Services which is to be held by the Connecticut Health League on December 7, 1960 at the Connecticut Light & Power Company auditorium. Without vote, it was agreed that James G. Burch, Director of Public Relations, be authorized to assist in publicizing this conference at the proper time.

DATE OF NEXT MEETING. It was VOTED to direct the Chairman and the General Manager to set the date for the next meeting of the Council.

The Society's Placement Service is in receipt of the following:

PLACEMENT WANTED

Marcel A. Azar, M.D., Age 49, M.D. University Beirut 1934. Specialty—Surgery & General Practice. Connecticut License 1960.

Rocco Cornacchia, M.D., Age 34, M.D. University of Naples, Italy, 1951. Specialty—Internal Medicine or General Practice.

Armand Guigui, M.D., Age 34, M.D. University of Paris, France, 1953. Specialty—Surgery.

Julien L. Joseph, M.D., Age 32, M.D. "Faculte de Medecine" of Haiti, July 1954. Specialty—Anesthesiology. Connecticut License.

ANYONE KNOWING OF OPENINGS FOR THESE PHYSICIANS IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

PLACEMENT OPPORTUNITY

For Rent—Office in Bridgeport for neuro-psychiatry, fully equipped.

ANY PHYSICIAN INTERESTED IN THE ABOVE IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

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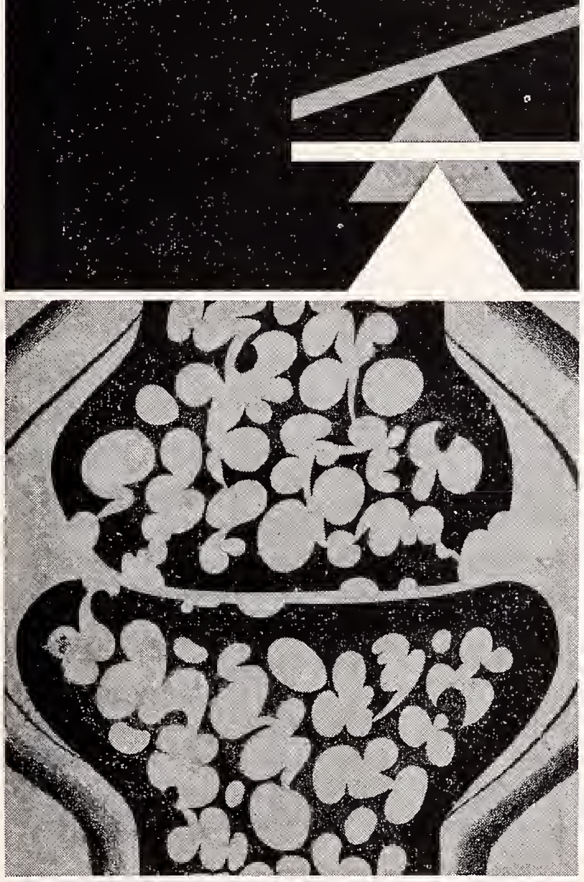

Even in the more transient rheumatic disorders, an anti-inflammatory effect more potent than that provided by aspirin is often desirable to hasten recovery and get the patient back to work.
By combining the anti-inflammatory action of prednisone and phenylbutazone, Sterazolidin brings about exceptionally rapid resolution of inflammation with relief of symptoms and restoration of function.
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Clinical Medicine

THE TREATMENT OF ATHEROSCLEROSIS.* BASIC ASPECTS OF INTEREST TO THE CLINICIAN.

Louis H. Nahum, M.D.

The true life span of man is variously estimated as being between ninety and one hundred and ten years. Heart disease alone causes more than half of all deaths and most of these are caused by coronary atherosclerosis. Add to this total, deaths from cerebral, renal, mesenteric and peripheral atherosclerosis and it becomes clear why this disease is the principal reason for man not achieving his true life span.

The disease—atherosclerosis is a disease of the subintima of arteries, characterized by multiple fatty deposits called atheroma which replace part of the normal structure of the vessel wall. They are composed of cholesterol esters, fatty deposits and at times calcium salts. The focal nature of this disease often lends itself to surgical removal of an obstruction with restoration of normal blood flow to a part. It is also of significance theoretically since it is difficult to conceive how a general metabolic disease by itself can alone account for the segmental nature of the distribution of the lesions without also presuming that a part of the disease must be due to a reaction to injury from such factors as toxins and allergens. On the other hand a focal injury to the ground substance, is an unsatisfactory way to account for the close correlation of atherosclerosis with hemodynamic and metabolic aberrations. Admittedly the problem is complicated but this does not free the clinician from the obligation of searching for clues to therapy from the large amount of experimental work already available.

The following techniques have been employed to produce atherosclerosis—excessive dietary fat,[1,2] deficiency of unsaturated fatty acids,[3] pyridoxine deficiency,[4] excessive emotional stress represented in the experiments by adrenalin injections,[5] high blood pressure.[6] Physical inactivity,[7,8] and overweight are clinical correlates.

Out of the experiments with lipidemia have come three new concepts. One that hormones can protect the animals undergoing excessive fat intake against atherosclerosis. Thus estrogen is protective in chickens on an atherogenic diet[9] and thyroid is protective in dogs on a similar diet.[10] The second concept is that experimental atherosclerosis is reversible, and that once in existence, it can be made to regress.[9] This idea has been most useful in creating the hopeful outlook which now prevails concerning this disease. The third concept is the importance of the rate of ingestion of the food, proposed by Cohn and Joseph.[10,11] Apparently in their experiments on chickens and rats the same diet which when given in two widely spaced meals, "meal eating" produced atherosclerosis, did not do so, if the animals were allowed to "nibble" at the food all day long. The concept that the rate of ingestion of food plays a role in atherogenesis is a novel one and has not yet been taken into account in epidemiologic studies on atherogenesis, nor in the treatment of many other diseases, as for example diabetes, nephritis, liver disorder, etc.

The diet-lipidemia hypothesis, has gained plausibility not only because lipidemia and atherogenesis are causally related in experimental animals, but also because they seem to be related in many epidemiologic studies in far flung regions of the world. Although many exceptions to this association have been uncovered[2] the explanation for the exceptions might be found in the eating habits and in the standards used for estimating lipidemia. Thus the most commonly used index blood cholesterol perhaps should have been based upon a normal value of 150 mg. per cent, rather than the currently accepted level of 240 mg. per cent. This however does not reduce the value of Keys'[12] two rules (a) wherever a population has a relatively high serum cholesterol average for its clinically healthy males—220 mg. per cent or more per middle aged men—that population exhibits a relatively high incidence of coronary heart disease; (b) Populations with low serum cholesterol averages—less than 200 mg. per cent for middle aged men—exhibit relatively little coronary artery disease. Implicit in these rules are three points—middle age, males and cholesterol levels.

The middle age clearly indicates that the factors operating to produce atherosclerosis require years to come to manifest pathology. They operate "over the life span."[9] Maleness plays a role, not female-ness.[9] This, one could infer from the experiments on chickens mentioned above. This is in complete agreement with clinical studies on female castrates before the menopause as well as the rising incidence of atherosclerosis in post-menopausal women.[13] Assumed in Keys' two rules is that the populations processed statistically are not affected by any degree of hypothyroidism. The third factor implicit in the Keys' rules is that cholesterol level of the blood is an accepted measure of atherogenesis. The information on this point is not static. Perhaps the normal level should be taken as 150 mg. per cent. Perhaps triglycerides are also implicated as Albrink[14] and Brown & Page[15] are now suggesting. At all events a person between 40-59 whose blood cholesterol level is over 240 mg. per cent has three times the probability of suffering from a coronary event than a person with a normal cholesterol blood level.[9] Such a figure becomes significant not only theoretically but also therapeutically.

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* A lecture in the Department of Pharmacology, Yale School of Medicine, March 22, 1960.

What can be the reason that lipidemia increases with age in certain peoples and social strata. A suggested answer is failure of a "postulated fat disposal mechanism." The association between total fat intake and atherogenesis with the possible exception of the people of Thailand implies that high fat intake especially of saturated fats leads to an overloading and ultimately a failure of a hypothetical fat disposal mechanism. As a result blood lipid levels rise and gradually the disposal of the fat which has filtered into vessel walls becomes inadequate thus allowing the lipids to accumulate, later to form atheromatous deposits. This view has some support in the observation of Brown[16] that patients with coronary atherosclerosis show abnormal fat tolerance tests comparable to those with idiopathic hyperlipemia though to a lesser degree. It has its analogy in the pathogenesis of diabetes in which excessive carbohydrate intake is known to lead in many individuals to pancreatic exhaustion and failure of the carbohydrate disposal mechanism. This does not deny that some individuals exist that can tolerate high fat loads over the life span without developing atherosclerosis, just as some individuals exist who can tolerate indefinitely large amounts of carbohydrates and sugars without developing diabetes. Perhaps genetic factors exist which determine which individuals will suffer from a poor fat disposal mechanism even as genetic factors are involved in diabetes.

The *"Clinical event"*—From the therapeutic standpoint, regardless of what causes atherosclerosis, the avoidance of its complications namely the clinical event of thrombosis is of the utmost importance. In most patients, real symptoms develop only after a thrombosis has occurred and it is this complication which clinically distinguishes between persons with relatively equal amounts of sclerosis. If we knew what leads to thrombosis we might be able the better to deal with the climactic culmination of atherosclerosis. If we accept the explanation of Patterson[17] that thrombi form when an atheromatous placque has ruptured, liberated thrombo-plastin and created a nidus for thrombus formation, then a thrombus is a natural consequence of the evolution of an atheromatous placque and nothing short of an arrest of the atherogenic process can be expected to remove this factor. Another explanation, that increased coagulability is responsible, has not been demonstrated. There is however accumulating evidence which supports the view that reduced fibrinolysis occurs in lipidemia already emphasized as a factor in atherogenesis. According to this view fibrin deposits are forever forming on vessel walls and are as rapidly lysed by tissue activators.[18] In the presence of atherosclerosis and lipidemia these activators are either not liberated or they are blocked in their fibrinolytic task.[19] The real problem in the treatment of atherosclerosis therefore is to prevent the clinical event and this involves at least three steps.

A. To arrest the atherogenic process. This implies that one needs to be on the alert for the cases that are likely to develop or already do have atherosclerosis.

B. In these it is our task to remove whenever possible factors which are believed to contribute to atherogenesis.

C. To prevent thrombosis.

The High Risk Concept

One sizeable sector of the United States population exhibits an inordinately high risk of developing clinical coronary artery disease. This is the group with two or more disturbances among the following: Hypertensive renal disease; obesity; hypercholesterolemia; hypothyroidism; heavy smoking and a poor family history. Out of the Framingham study[20] we learn that a middle-aged male who is overweight, has an elevated arterial pressure, and an elevated serum cholesterol has one chance in two of developing coronary heart disease. The man of normal weight with normal arterial pressure and normal serum cholesterol has but one chance in 25 of developing coronary artery disease. Stated in another way, "the high risk patient" has 12 times as much chance of developing coronary heart disease as the normal person. When one reflects that 20 per cent of the first attacks of myocardial infarction have proved fatal in the first few weeks, the seriousness of what faces the high risk patient, becomes frightening and the need of eliminating the factors operating to produce the high risk becomes mandatory.

It may be admitted that the concept of high risk does not necessarily imply that a complication has already occurred. It merely points to the probability that atherogenesis has been developing and given time that a "clinical event" may be expected to occur. If it were possible to eliminate some, if not all the factors involved in producing a high risk, then we would be justified in hoping that this would cause slowing or even arrest of the atherogenic process. Perhaps the time will come when it might even be caused to regress, a phenomenon known in experimental atherogenesis though not yet observed clinically. In any event efforts in the direction of removing the factors of "high risk" certainly may be rewarding as far as avoiding the "clinical event."[9]

General Considerations in Treatment

The importance of the hopeful outlook—The recognition that atherosclerosis is a disease and not a product of old age has changed our whole outlook. On the one hand it has led to a widespread and concerted attack through epidemiologic and experimental techniques which have already brought some clarity into a complex and formerly confused field. On the other hand it permits the physician to speak frankly to the patient about the predisposing causes, some of which are removable, and thereby to enlist his co-operation in a venture which may be expected to yield "health and longer life." The existence of the known factors in high risk should be brought to the attention of the patient and earnest efforts undertaken to eliminate them.

A. Hypertension—This has been dealt with at length in a previous lecture (Goodyer). Only the principles will be outlined here. Since hypertension is a factor in "high risk," it should be treated to the point that diastolic pressure is maintained at normal levels (90 mm. Hg. or less). Several drugs are available for achieving this goal. One like reserpine acts to deplete norepinephrin stores at sympathetic nerve endings thereby reducing action of the vaso-pressor mechanism. One like hydralazine acts directly to dilate the smooth muscle cells of blood vessels. One, like chlorothiazide acts on the sodium chloride balance. Generally in severe cases two differently acting drugs together may become necessary. More recently spironolactone (Aldactone) has been used successfully in the accelerated or malignant form of hypertension in which apparently an excess of aldosterone occurs as a cause of, or a concomitant with, the onset of the rapidly fatal phase. In such instances chlorothiazide by itself has proved inadequate to cause elimination of sodium and only an aldosterone antagonist is effective.[21, 22] The reduction of diastolic pressure may be expected to retard or arrest the progress of atherosclerosis. No knowledge is available at present as to whether it will reverse or cure it. Some cases of hypertension are curable by surgery. Those in which a pheochromocytoma exists, those in which aldosteronism is present; those in which a narrowed renal artery or an infarction of a kidney has occurred. The pyelonephritides may be arrested and the hypertension either improved or prevented from growing worse.

B. Obesity—In men especially, vigorous measures should be taken to control overweight, the ideal to be achieved being the "fighting weight" of the third decade of life. While the discussion of a technique for weight reduction will take us somewhat afield it is necessary to emphasize that the diet must be palatable and varied to avoid monotony. Stringent measures should be avoided unless absolutely necessary. Rapid weight loss will occur only in a burst of enthusiasm which soon ebbs in most patients. Therefore slow consistent weight reduction is much to be preferred. As will be seen below by reducing total fat intake and avoiding ingestion of "empty calories" that is, those derived from refined and processed carbohydrates, weight reduction can be readily accomplished. There is no doubt that every person who has already suffered a "clinical event" should follow dietary principles outlined below. During the childbearing period women are less susceptible to atherosclerosis and weight reduction is not as urgent. However, in early castrates or after the menopause,[23] atherogenesis progresses as rapidly in women as in men and such women should be encouraged to undertake a vigorous weight reducing regime in addition to replacement estrogen therapy.

C. Hypercholesterolemia — Since hypercholesterolemia is one of the elements in high risk, it is probably desirable to attempt to lower the serum cholesterol levels with the aim of retarding atherogenesis. Much conflicting information has been developed on this important subject and the factors responsible for cholesterol reduction are still under investigation. The opponents of the view that it is useful to reduce cholesterol levels point to the numbers of patients with atherosclerosis that show normal blood cholesterol levels. However, this argument would lose some of its force if normal serum cholesterol levels are taken as 150 mg. per cent and those 200 mg. per cent or over are considered abnormal.[24] The opponents also point to the fact that permanent cholesterol reductions have not yet been demonstrated to follow any method employed thus far. It is certainly true that long term studies are not at hand and that fluctuations of serum cholesterol levels do take place. For example, sharp drops follow weight loss, diarrhoea, fever, vigorous exercise, the administration of thyroid, estrogens, and nicotinic acid (see below). It is also true that elevations are found during rapid gains in weight and during treatment with Cortisone, testosterone or ACTH. Finally the opponents point to the fact that dietary restrictions are often unsuccessful in reducing the cholesterol levels over long periods of time. Nevertheless if a patient shows hypercholesterolemia prudence would suggest that efforts should be made to lower the blood levels.

Two types of diets have been proposed by Brown and Page[25] in these cases, one the "Low fat food pattern." This diet contains a minimum amount of animal and hydrogenated fats. Lean meats are chosen and cooked without fat. The low fat pattern can be made low in cholesterol also by eliminating egg yolks, organ meats and dairy fats. This diet is especially effective in those patients showing increased triglycerides in the blood together with increased cholesterol. If the cholesterol does not return to normal in three months then these authors recommend the "vegetable oil food pattern." This substitutes vegetable oils for most of the fats in the normal diet, the total calories from fat remains about 40 per cent but since animal fat is limited only to lean meats, the remainder is obtained from corn, cottonseed, peanut and soybean oils. It is useless merely to add vegetable oils to a regular diet. It is necessary to obtain most of the fat calories not from fat of animal origin but from vegetable oils instead.[25] In their series of 34 patients, 25 per cent showed hypercholesterolemia that did not respond to these dietary modifications and obviously require other treatment than diets. These are the patients that require especially a thorough investigation of their hormonal balance as well as use of drugs.

D. Overcoming Hormonal Imbalance—It has been pointed out that hypothyroidism, diabetes, estrogenic deficiencies as occurs in female castrates and post-menopausal women all are factors in atherogenesis. Such patients are in need of replacement therapy. The hypothyroid patient once discovered should receive two grains of extract per day. Diabetes should be dealt with by weight reduction, carbohydrate restriction and perhaps with insulin. Oral hypoglycemic agents have not been shown to be antilipemic. Finally estrogen replacement therapy in the estrogen deficient woman is recommended by Marmorston[23, 26] as 0.625 mg. Premarin or similar quantities of any naturally occurring estrogen. It is necessary to remember that in a small number of post-menopausal women the estrogen administration may cause uterine bleeding. This is promptly reversed by cessation of the hormone.

E. Smoking—Hammond and Horn[27] from a study of 200,000 Americans have shown that the death rate from heart disease was 82 per cent higher among smokers than among non-smokers. Among heavy smokers (over 20 cigarettes a day) the death rate was 95 per cent higher. The mechanism that is responsible for this is unclear. It is known that smoking may increase the systolic pressure by as much as 57 mm. (Grace Roth).[28] It also increases heart rate but drops temperatures in the toes and fingers by as much as six degrees indicating active peripheral vaso-constriction. What it probably also does is produce as much as 15-20 per cent CO Hemoglobin. The deleterious effect of this type of O_2 deprivation is obvious in those areas already deprived of circulation by atheromatous arteries.

F. Drugs—We are only at the beginning of the era of drug therapy for atherosclerosis. Most of the drugs are experimental in the sense that they have been tested for but a short time, and their long term effects, mode of action and late side effects are still unknown.

(a) Pyridoxin deficiency may cause intimal lesions. This essential water soluble vitamin is necessary for desaturation of essential fatty acids, although it has no effect on plasma cholesterol. Therefore any patient believed to be deficient should be given 2-5 mg. daily. Some physicians to be on the safe side give it to their patients anyhow. It is prophylactic and not curative. It will not dissolve placques already present.

(b) Lipotropic agents are commercially profitable but have not been shown to lower plasma cholesterol or lipids. This applies to choline, inositol, essential fatty acids in capsule form, tocopherol or any combination of them.

(c) Nicotinic acid is probably the most effective drug, in three gram doses by mouth daily. Its usual side effects, such as flushing, rash and anorexia can be distressing to the extreme. In fact it is possible that the drop in cholesterol plasma levels may be a sequel to its anoretic effect. Doubtless efforts will continue in order to produce nicotinic acid preparations that will cause cholesterol lowering without the unpleasant side-effects. Therefore it is well to keep an open mind with regard to this drug.[29]

(d) Ethylenediamine tetra-acetate (Calcium versenate) 1.0 gram doses taken by mouth has been effective in young persons especially those with zanthomatosis. It is not effective in older persons and its effect may last but a few months only.[30]

(e) A new synthetic compound that blocks cholesterol synthesis in animals—Mer—29 has had no long term trial, is apparently less active in humans than in animals and its use must await long and patient trial before it can be recommended for long term use in humans.[32]

Prophylaxis for "High Risk" Persons

Many persons are aware of their poor hygienic practices. Nevertheless they, out of habit or lack of confidence do not take advice kindly on such matters. Reasonable schedules of work, rest and recreation, ordering one's life to avoid tension, frustration, stress and fatigue, and undue competitiveness should be followed. Such patients should be led to look objectively at themselves to eliminate the undue stresses and strains that can take a serious toll of middle-aged people. The advice to take physical exercise sufficient to maintain physical fitness is important not merely to maintain health, and burn unnecessary calories, but also to eliminate tension as well.

Anticoagulation

The results of anticoagulation are often rewarding in patients who suffer from ischemic manifestations, that is those with coronary or cerebral insufficiency since these have probably already had a "clinical event." Further thromboses may be expected and their prevention may be life-saving. The accumulation of many experiences have clearly established that anticoagulation properly carried out can reduce the incidence of thrombosis by as much as 75 per cent.[32] Although the patient is obliged to go to considerable trouble and expense the results are so rewarding as to make the physician think twice before deciding against this procedure. The problem often arises whether once started, anticoagulation therapy must be continued indefinitely or whether a time might finally come at which it may be discontinued. Nothing is known about this with any certainty. It is true that sudden discontinuance can lead to a secondary increase in the tendency to clot and at first thought it might appear as though the patient is caught in a net from which he can't escape. However, gradual discontinuance can avoid the so-called "secondary rebound" if this becomes necessary in anticipation of surgery or on the development of an illness with bleeding like peptic ulcer.

Diet vs. Anticoagulation in Preventing the "Clinical Event"

There is a suggestion from the work of Morrison that a low fat diet after a myocardial infarct, if properly carried out, also can reduce the incidence of recurrence of another clinical event by as much as 75 per cent. The figure is almost identical with that obtained from the much larger series treated by anticoagulation. If Morrison's work[33] can be confirmed, there could be offered to a person with myocardial ischemia an alternative to the practice of permanent anticoagulation. It could very well be that by offering patients this alternative that many would choose vigorous fat restriction. In this way there might develop growing experience of the value of diet vs. anticoagulation in preventing the "clinical event." An unequivocal answer to this question would be of broad general value in the management of the patient with atherosclerosis.

Summary

1. Atherosclerosis is a disease and is not due to aging.
2. Experimental and epidemiogogic studies reveal that Hypertension, Obesity, Hypercholesterolemia, Hormonal imbalances of thyroid and estrogens, as well as smoking are factors in atherogenesis. Individuals with two or more of these abnormalities constitute "high risk."
3. The task of the physician is to discover the high risk patient and eliminate the factors as vigorously as possible.
4. The prevention of the "Clinical event" by anticoagulation and diet is considered.

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The Dying Patient

That some patients under care will die is a factor common to all branches and specialties of medicine, but not much formal or systematic attention has been given to clinical problems related to the care of the dying patient, according to Dr. Paul Chodoff.

Physicians are oriented toward curing their patients. Many, therefore, may find it unpleasant to study the emotional reactions of dying patients and to be obliged to spend time on psychotherapy of those in the process of dying. Yet, because of the growing prestige of science, increasing numbers of patients who are alienated from religion seek the aid of a psychiatrist in matters of ultimate concern and thus would welcome the help of a thoughtful, understanding physician at such a time.

To achieve this task the physician must learn, among many things, to subdue his own convictions, religious or other, overcome his own fears of death—if he has any—recognize that his status as physician is not impaired by eventual loss of the patient, and clearly see the problems and fears of the dying patient.

In any case, it is the doctor's job to see the patient through to the end; and this fulfillment of responsibility can benefit by the increasing experience of psychiatrists in dealing with patients who are involved in the complex process of taking leave of life. (*M. Ann. District of Columbia 29:447, August, 1960.*)

To anticipate the harvest you must consider the seed from which the plant is grown.

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Pathology Laboratory Notes

Roy N. Barnett, M.D., *Norwalk*

Towards Better Bacteriology

Good clinical bacteriology exists only when there is close teamwork between the clinician and the bacteriologist.

Handling the Specimen

Cultures should be fresh, as many pathogenic bacteria die rapidly outside the body. If delay before plating is inevitable, the specimen should be kept *moist* and *cold* in the interim. Cotton swabs are dropped into broth immediately after inoculation with exudate or pus. Even fastidious organisms will survive in refrigerated broth; even the hardiest pathogens will often perish on a dry swab left at room temperature for a day.

Reporting Contaminants

In some laboratories it is a practice to report whatever organisms are grown, regardless of their possible or probable relation to disease. For example a chart at one of our better Connecticut hospitals contains three successive spinal fluid reports as follows:

DATE	CELLS	PROTEIN	SMEAR	CULTURE
Jan. 8	4	20	neg.	Staphylococcus albus
Jan. 11	3	22	neg.	Bacillus subtilis
Jan. 15	4	25	neg.	Escherichia coli

Aside from providing a memento to poor cultural techniques, the culture reports are meaningless and would only confuse the clinician unwary enough to believe them. It is the bacteriologist's duty to exclude obvious contaminants from his reports just as the electrocardiographer must ignore muscle tremors and the clinician not count his own pulse! *Bacillus subtilis* is always a contaminant; if it overgrows the media and renders them useless the report should read "Overgrown by B. subtilis" so that a new culture will be taken. Sometimes the problem is difficult, as when Staphylococcus albus appears in all media of a blood culture; this must be reported and the clinician will be the ultimate judge of its importance.

Urine Cultures

The interpretation of urine cultures depends on certain quantitative as well as qualitative aspects (Friedman, L. Conn. State Med. J. *22*, 705, 1958). Proper collection of the specimen and considerable reliance on the stained smear are vital.

Stool Cultures

I. Ordinarily stool cultures are intended to isolate *Shigella, Salmonella* and *Typhoid* bacteria. Media are used which will encourage these organisms and discourage all others. *Shigella* particularly will not survive long outside the body; rectal swabs inoculated in broth are more effective than the usual stool culture.

II. *Staphylococci* are enteric pathogens only under special conditions, particularly after broad spectrum antibiotics have been used. If their presence is suspected culture on blood plates will be made.

III. So-called *E. coli serotypes,* implicated in some diarrheal disease of the newborn will be unrecognized unless specially sought for because of clinical indications.

Throat Cultures

The usual mouth flora (Neisseria, diphtheroids, non-hemolytic streptococci and a few Staphylococcus albus) are not pathogens, and it is futile to make vaccines from them or to employ sensitivity studies. If *diphtheria* is suspected, rapid presumptive diagnosis on Loeffler's slants is urgent. The known possibility of *H. influenzae Type B,* in a croupy child, or of *Neisseria intracellularis* (meningococcus) in a patient with meningitis will make it much easier to search for these insignificant colonies.

Cough Plates

Hemophilus pertusis can be identified satisfactorily only on fresh B-G plates incubated for at least three to five days. Nasopharyngeal swabs, particularly in infants, are much more productive than cough techniques.

Wound Cultures

If *gas bacillus* infection is suspected, a piece of apparently diseased tissue may be dropped into cooked meat and boiled milk tubes, and diagnosis made often in 12 hours. *Tetanus* organisms are often few and can be found only if specially sought.

Acidfast Bacilli

Tubercle bacilli require special stains, cultural procedures and concentration techniques. Cultures are generally more practical than guinea pig inoculations (Wick, Conn. State Med. J. *21*, 318, 1957). *Lepra bacilli* are usually numerous in nasal smears of leprous patients, even though no disease is apparent in the nose. They decolorize more readily than Tubercle bacilli and must be specially treated.

Conclusion

Bacteriology is helpful to the clinician to the degree to which he becomes an expert in its proper use.

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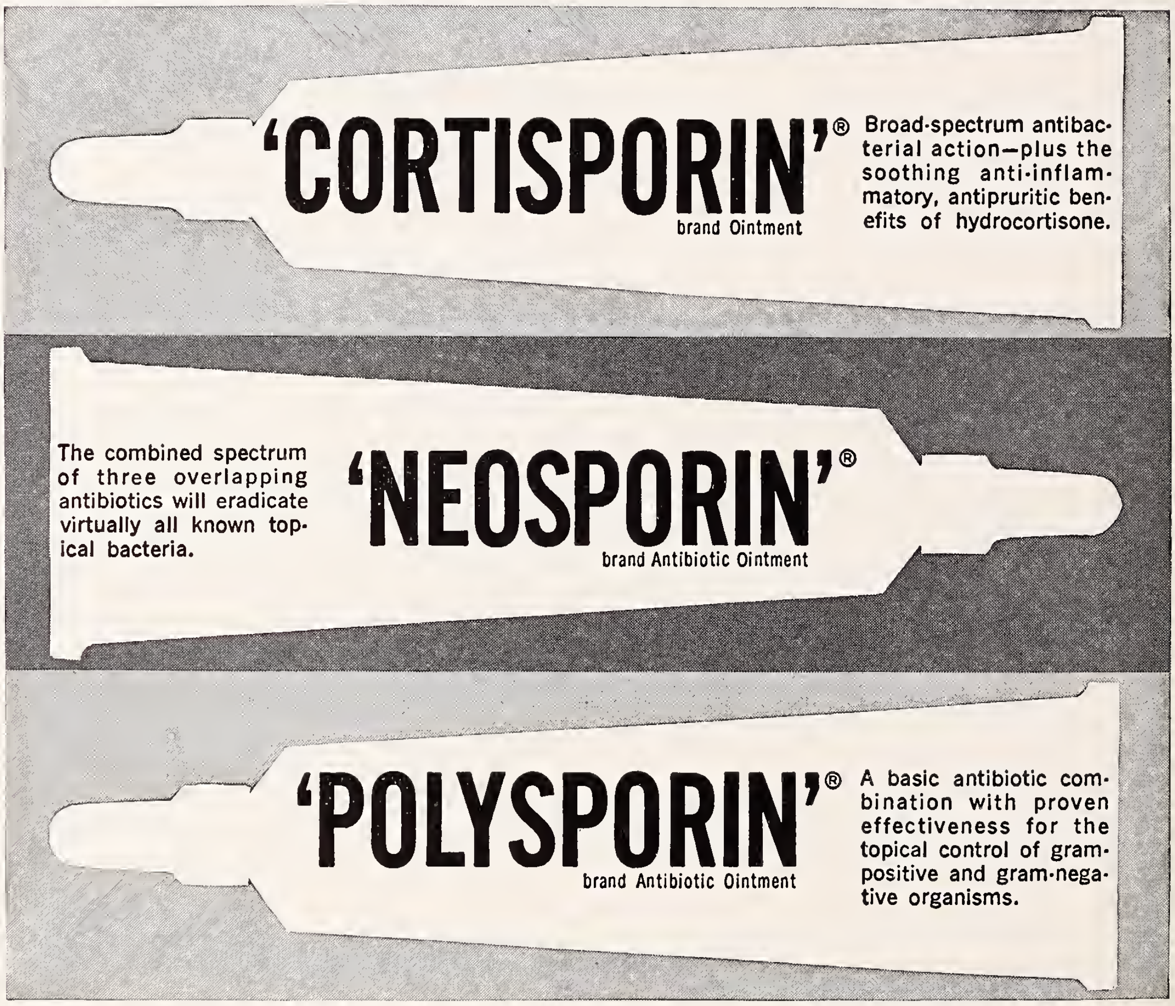

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Neomycin Sulfate	—	5 mg.	5 mg.
Hydrocortisone	—	—	10 mg.
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SEMI-ANNUAL COUNTY ASSOCIATION MEETINGS

Hartford, Wednesday, October 5

Hotel Bond, Hartford

Dinner 7:15 P.M. Social Hour: 5:00 P.M.

Speaker: Frank Rockwell Barnett, Executive Director of the Richardson Foundation, New York

Subject: STRATEGY, SURVIVAL AND THE PRIVATE CITIZEN

Fairfield, Wednesday, October 5

Country Club of Darien, Darien

Social Hour: 6:00 P.M.

Dinner: 7:00 P.M. Business Meeting: 4:00 P.M.

Speaker: Werner Jensen, Engineer

Subject: HUMOR

New London, Thursday, October 6

Norwich Inn, Norwich

Social Hour: 6:30 P.M.

Dinner: 7:30 P.M. Business Meeting: 5:30 P.M.

Speaker and subject to be announced.

Litchfield, Tuesday, October 11

Greenlawn, New Milford

Dinner: 7:00 P.M. Social Hour: 6:30 P.M.

Speaker and subject to be announced.

Middlesex, Thursday, October 13

Johnny Cake Inn, Ivoryton

Dinner and Social Hour: 7:00 P.M.

Speaker: Jan Hahn, Woods Hole Oceanographic Institution

Subject: THE OCEAN

Tolland, Tuesday, October 18

Olde Homestead Inn, Somers

Dinner: 6:30 P.M.

Speaker: Clair Rankin, M.D.

Subject: CURRENT ASPECTS OF HEMATOLOGY

New Haven, Thursday, October 20

Waverly Inn, Cheshire

Dinner: 7:00 P.M. Business Meeting: 4:00 P.M.

Speaker and subject to be announced.

Windham, Thursday, October 20

Nathan Hale Hotel, Willimantic

Dinner: 6:30 P.M. Business Meeting: 7:30 P.M.

Speaker and subject to be announced.

Around The State

Dr. Thomas F. Hines Made Director of Rehabilitation Services at Gaylord

The Gaylord Hospital and Sanatorium announces the appointment of Dr. Thomas F. Hines as Director of Rehabilitation Services.

Dr. Hines will direct all of Gaylord's rehabilitation services, including physical, occupational, work therapies as well as Gaylord's out-patient clinics.

He will continue as Associate Professor of Medicine at Yale University.

New Haven County

Dr. Orvan W. Hess was recently appointed chairman of the National Committee on Obstetrical Anesthesia and Analgesia of the American College of Obstetricians and Gynecologists.

The function of the committee is to evaluate current methods used for relief of pain during childbirth. Working jointly with a liaison committee of the American Society of Anesthetists, research fellowships and other opportunities for special training are being developed which may lead to improved birthroom anesthesiology.

Doctor's Office

Joseph Amanti, M.D., announces the opening of an office for the general practice of medicine and surgery at 4 East Main Street, Stafford Springs.

Marianne A. Beatrice, M.D., announces the opening of an office for the practice of obstetrics and gynecology at 100 York Street, New Haven.

Gerald Copeck, M.D., announces the opening of an office for the practice of pediatrics at 39 Stonybrook Road, Stratford.

Edward J. Day, M.D., announces the opening of an office for the practice of obstetrics and gynecology at Foxon Road, North Branford.

Arnold Goldenberg, M.D., announces the opening of an office for the treatment of arthritis and rheumatic diseases at 56 Garden Street, Hartford.

Harry C. Knight, M.D., and Floyd D. Roos, M.D., announce their association in the practice of urology at the Madison Medical Center, Madison.

Desmond M. McGann, M.D., and Patrick F. Swan, M.D., announces their association in the general practice of medicine at Wapping and Rockville Roads in Windsorville.

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SAVE THE DATE !!

Wednesday October 19, 1960
Semi-Annual Meeting

Woman's Auxiliary to
the Connecticut State
Medical Society

Hartford Golf Club
134 Norwood Road
West Hartford, Conn.

10:30 A. M. Business Session
Social Hour
1:00 P. M. Luncheon and Program

Health League

The Connecticut Health League will sponsor a conference on Homemaker's Service at the Connecticut Light & Power Company in Berlin on December 7th.

Mrs. Morton Arnold will act as hospitality chairman for this meeting assisted by a committee from the Auxiliary.

Chicago Conference

"Accent Service to Preserve and Enhance the Heritage of American Medicine" is the theme of the 17th annual Conference of National Officers, Directors, Chairmen and State Presidents and Presidents elect of the Woman's Auxiliary to the American Medical Association to be held October 3-5.

On Sunday evening, October 2nd, there will be regional get-acquainted dinners to be followed by a visit with our president, Mrs. William Mackersie, and Mrs. Harlan English, president elect.

Mrs. William Mackersie, president, will call the Conference to order on Monday at 9:15 a.m. following registration. After the invocation and pledge of loyalty to the Woman's Auxiliary to the A.M.A. the opening session will be turned over to Mrs. Harlan English, president-elect, who will act as the Conference presiding officer.

Legislation, the Bulletin, the A.M.E.F. will be the subjects of the Conference on Monday, as well as "Community Service in Action" which includes Program, Community Service, Mental Health, Safety and Rural Health. Correct procedures for by-laws, finance, history and report forms will be discussed.

Parliamentary procedures based on questions submitted for discussion will be demonstrated to the conference members who attend the early-bird session on Tuesday. Membership, Health Careers, and Civil Defense will be the subjects for discussion during the regular Tuesday morning session.

Tuesday afternoon will feature a discussion in the round for state presidents and presidents elect based on suggestions sent by them and summarized for presentation.

A.M.A. headquarters will be the scene of the closing day of the Conference. Following a tour of the headquarters Ernest B. Howard, M.D., Executive vice-president, A.M.A., will present the "A.M.A. Roundup" and later act as moderator for "Clinic for Auxiliary Problems" for which questions have been invited from those attending the Conference. A.M.A. division heads and National Auxiliary chairmen will be available as resource.

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Book Reviews

A PRACTICAL GUIDE TO GENERAL SURGICAL MANAGEMENT by Julian A. Sterling, M.D. Vantage Press, Inc., New York, New York, 66 pp. $3.00.

Reviewed by Denis S. O'Connor

This slender volume is an outline of the organization and specific steps to be followed in the handling of the more common conditions met on the surgical service of a general hospital. This outline could be readily adapted to the surgical service of any hospital and for the interne or resident in a hospital where careful organization and discipline does not exist, the possession of this outline could be invaluable to him and to the welfare of his patients.

To assume that all hospitals have well-organized services and supervision of house staff would be an assumption contrary to fact and where proper organization does not exist, the availability of this booklet to the interne and surgical resident at the beginning of his surgical training should be considered by every surgical staff chief.

EDEMA. Mechanisms and Management. A Hehnemann Symposium on Salt and Water Retention. Edited by: John H. Moyer, M.D., Professor and Chairman of the Department of Medicine, Hahnemann Medical College and Hospital and Morton Fuchs, M.D., Assistant Professor of Medicine, Hahnemann Medical College and Hospital. W. B. Saunders Company, Philadelphia and London, 833 pp., illustrated. $15.00.

Reviewed by Franklin H. Epstein

The development during the past 10 years of new and powerful diuretic agents has served to focus the attention of physiologists and clinicians upon the mechanisms and management of edema. The discovery of acetazoleamide might be regarded as the first chapter in this modern story; interest in carbonic anhydrase inhibitors was, perhaps, a natural outgrowth of the demonstration by R. F. Pitts that exchange of hydrogen ions for sodium accounted for a substantial fraction of sodium reabsorbed by the renal tubules. The development of chlorothiazide, a compound analogous to acetazoleamide but with much greater diuretic potency, followed. The synthesis and testing of spirolactone and other compounds which block the action of sodium retaining hormones of the adrenal cortex at the cellular level in the kidney is part of the exuberant flowering during the past few years of the chemistry and physiology of the steroids. With the appearance of all this material, practicing physicians and specialists in renal physiology alike, beset as they are by conflicting drug house claims (often inadequately supported) and bedazzled by gaudy advertisements and glib detail men, are likely to feel keenly the need for an authoritative postgraduate course.

The present volume is a verbatim report of a conference held at Hahnemann Medical College in 1959 at which the physiology and pharmacology of edema was reviewed. It is a series of short papers, complete with "discussion" after each group of related topics, which extends over 817 pages and is written by 123 authors, ranging from biochemists and electron microscopists to just plain doctors. One should not expect such a compilation to be pointed and succinct; this it is not. As might be anticipated, the material is uneven, repetitive and sometimes contradictory. Much of it is not new; some of it is banal. But this is not a textbook or a scholarly or definitive monograph and perhaps it should not be judged by such standards. The book, in essence, gives the *climate of opinion* as of 1959, with regard to edema and diuretics. Its effect is that of chatting briefly with a large number of people who are working in this expanding field. These doctors do tend to run on about the things that interest them. Sometimes they seem to be talking down to the reader, sometimes they are away over his head. But if you are interested in the same things they are, you will find enough fascinating nuggets in their conversation and their references to make this a worthwhile and valuable book.

TEXTBOOK OF PEDIATRICS edited by Waldo E. Nelson, M.D. with the collaboration of 81 contributors. W. B. Saunders Co., Philadelphia, Pa., 1959, 1462 pp. $16.50.

Reviewed by Milton Senn

Lest this reviewer be accused of chauvinism, since he is one of the 81 contributors to the book, it must be said at once that objective assessment by others confirms his opinion that it continues to be one of the best source books for bringing better understanding of the medical problems of infants and children to practitioners and medical students. The new edition has no changes in arrangement or pattern. Some divisions have been brought up to date and made more literary, while new chapters on several subjects have been introduced. Particularly valuable are those chapters dealing with new developments in the care of the newborn infant, prenatal factors influencing the health of children and parenteral fluid therapy. This edition is a collector's item, since one of the Editor-in-Chief's daughters has slyly introduced in the appendix a reference to Birds, For The, pages 1-1413. The tongue-in-cheek appraisal of the book is symbolic not only of the daughter's affection for her father, but that of many practitioners of pediatrics for the chief editor.

SIGERIST ON THE SOCIOLOGY OF MEDICINE edited by Milton I. Roemer, M.D. M.D. Publications Inc., 30 E. 60th St., New York 22, N. Y. $6.75.

Reviewed by Louis H. Nahum

Two major events have occurred to alter drastically our concept of illness. One is the growth of medical science which has revealed the natural causes of illness and thus taken illness out of the supernatural realm. Sickness is not due to evil spirits and cannot be cured by exorcism or its modern equivalent faith healing. A corollary to this principle is that illness is not an individual thing but a social one. For example, a person with tuberculosis, syphilis or poliomyelitis has not fallen ill as a threat from heaven but has contracted the sickness by contact with someone else who gave it to him. Similarly he will transmit it to some other innocent victim. Furthermore his illness is a burden upon his family and his children whose care thereby may be thrust upon society.

The other event is the industrial revolution which has transformed individual productivity into a social responsibility. The economic loss from illness is so great that society inevitably turns to methods which will reduce this loss. A loss of 5-10 billion dollars or more through unnecessary illness is being recognized as too expensive even on economic grounds, leaving aside the misery and deprivation which it causes to the victim and his family. It is therefore necessary for all of us to begin to think of the sick and the physician who cares for him in the context of the social aspect of illness. It is this theme which the author develops in this book on the Sociology of Medicine. Anyone who is enmeshed in the great struggle between government and private practice of medicine and which of us isn't, should read this volume before thinking over which action is necessary and possible.

The book is a collection of thirty-one essays taken out of the several hundred which this great medical historian wrote during his life time. Many deal with general philosophical and sociologic concepts as for example "The Special Position of the Sick" in which there is found a beautiful historical development of the concepts and attitudes of society towards illness in all stages of social evolution. In "The Place of the Physician in Modern Society" the author analyses the changing role of the physician in a changing society such as ours.

Many essays are concerned with the social aspect of medicine in the United States, Europe and other parts of the world. An example is "An Outline of the Development of the Hospital" which is a comprehensive treatment of the evolution of the modern hospital. All those interested in hospital administration will be more educated after reading this chapter. In "War and Medicine" the author gives a dramatic account of the development of medicine in response to war demands.

There are some who labor under the mistaken notion that medical history is a "hobby for the retired practitioner." These are the people who think that history can be written as a succession of events, a sort of chronology unrelated to the feeling, thinking and needs of the society in which the events have occurred. After reading this book it quickly dawns upon you that good medical history cannot be written as a pastime. It requires great learning, a knowledge of literature and language and above all a philosophy.

In this book the author reveals all his qualities of greatness and his philosophy. It is briefly, that medicine is a social science, and to understand it one must study the history of medicine as a social science. From this stand he evaluated accurately the meaning of medico-social developments. He was able to predict the future trends, some of which have already come to pass since his essays were written.

The reader who takes up this book, be he general practitioner or specialist, hospital administrator or statesman will see himself in the society in which he functions and will no longer be able to think of the physician as an individualist or the patient outside of the context of the society of which they are both integral parts.

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Obituaries

Michael E. Brodsky, M.D.
1901 - 1960

Dr. Michael E. Brodsky died on August 29, 1960 in St. Vincent's Hospital from diabetes and a myocardial infarction.

He was born on April 22, 1901, the eldest son of Dr. and Mrs. Emanuel Brodsky. He received his preliminary education in the public schools of Westport and his B.S. degree from Clark University in 1919. From 1920-21 he was an instructor of his alma mater. He studied medicine at Northwestern Medical School and was graduated in 1926. Early in his career, under the inspiration of his father, he manifested a deep interest in neurology and psychiatry, and after having completed his internship at St. Vincent's Hospital he decided to take up neurology as a specialty. With this end in view, he went abroad for training and studied in the medical centers of Berlin, Vienna and Bern. After an absence of two years he returned to Bridgeport to practice his chosen field. He was in practice for 35 years when his untimely death occurred.

In 1926 he was appointed to the neurological staff of St. Vincent's Hospital, Westport Sanitarium, City Dispensary, and the Neurological Clinic of Bellevue Hospital, New York, where he enriched his knowledge and gained greater clinical experience and succeeded his father as chief and director of the neurological service of St. Vincent's Hospital; and also served as secretary, vice president, president and chief of staff. He served for many years on the council of the Bridgeport Medical Society.

He was a former president of the Jewish Welfare board and also had been a member of the Board of Governors of the Jewish Community Center, the board of the Park Avenue Temple and the Jewish Children and Family Service Bureau.

Mike, as we knew him best, was very active in his private practice, hospital and clinics. In addition he developed quite a reputation as a medical-legal expert and his opinion on such matters was sought by the most prominent members of the bar.

He held membership in the following medical societies: New York Neurological, Bridgeport Medical, Fairfield County, Connecticut State Medical Society and the A.M.A.

In personality he was jovial, kind, considerate, sympathetic and understanding. He will be missed by his many patients, friends and colleagues.

He is survived by his wife, the former Dorothy Katz, a son Stephen Brodsky, and a daughter Mrs. Helene Marcus.

Albert Levenson, M.D.

Albert T. DiLorenzo, M.D.
1916 - 1960

Dr. Albert T. DiLorenzo of Waterbury died suddenly on July 13, 1960 at the age of 43 years. Death was attributed to a coronary occlusion.

Dr. DiLorenzo, a native of Waterbury, was graduated from Fordham University in 1937 and from Georgetown University School of Medicine in 1941. Internship was at St. Mary's Hospital in Waterbury and St. Mary's Hospital in Brooklyn, followed by a residency at St. Joseph's Hospital in Stamford.

Dr. DiLorenzo served in the Army Medical Corps from 1941 to 1946.

He was a member of the Department of Obstetrics and Gynecology of the St. Mary's Hospital and also a member of the Courtesy Staff of the Waterbury Hospital. Membership includes the Waterbury Medical Society, New Haven County Medical Association, Connecticut State Medical Society and American Medical Association.

His quiet dignity, ready smile and gentle ways earned for him the lasting esteem of his colleagues and the true affection of his many friends.

His untimely death came as a profound shock to all.

Louis Olore, M.D.

Daniel E. Shea, M.D.
1893 - 1960

Dr. Daniel E. Shea, 67, consultant urologist at St. Francis Hospital and former Director of the Bureau of Social Hygiene of the State Health Department, died at St. Francis Hospital May 31, 1960, following a cerebral hemorrhage.

A native of Hartford, Dr. Shea attended St. Bonaventure College and graduated from Loyola University School of Medicine in 1917. Thereafter, he entered the U.S.A. Medical Service and was stationed in Los Angeles, California until the termination of World War I.

When discharged from the service, Dr. Shea went abroad to do some postgraduate work in urology. Upon his return to Hartford he was appointed to the active staff at St. Francis Hospital and later became associated with the State Health Department; first as clinician and then as Director of the Urological Division. In 1929 he was appointed Director of the Bureau of Venereal Diseases, Hartford City Health Department. On February 11, 1959 he retired because of ill health. Upon the termination of his services in the Department of Health, he was given a testimonial dinner by members of the Department in appreciation of his services and his affable disposition.

Dr. Shea was a member of the AMA, the American College of Surgeons and the American Urological Association. He was also a member of the Knights of Columbus, the Elks and the American Legion.

Surviving are his wife, Mrs. Mary Nash Shea; two sons, Daniel E. Shea, Jr., of Framingham, Massachusetts and Attorney Robert N. Shea of Hartford; one daughter, Mrs. Lorraine S. Rogers of Holtsville, California; two brothers, Michael Shea of West Hartford and William Shea of Hartford; and seven grandchildren.

Arthur B. Landry, M.D.

In Memoriam

Beardsley, Lewis G.—West Haven; Yale University School of Medicine; 1917; former manager of the Veterans Administration Hospital, West Haven, had been hospitalized since last June for treatment of hepatitis; prior to accepting the West Haven position, he served as director of VA hospitals in North Carolina, New York, Washington, D. C. and Newington; on December 27, 1958, Dr. Beardsley retired after having served with the Veterans Administration for 37 years; served in both World Wars and achieved the rank of colonel; also served as clinical professor of medicine at Yale School of Medicine, a post from which he also retired in 1958; he was awarded the David Russell Lyman Medal by the Gaylord Farm Association in 1954, a medal which is presented annually to a person who, overcoming the handicap of tuberculosis, has lived an exemplary in service to the public welfare; died September 5, 1960, at the West Haven Veterans Hospital, aged 72 years.

Plukas, Joseph M.—Bridgeport; Georgetown Medical School, 1932; medical director of the Hillside Home and Hospital, Bridgeport; began medical practice in Bridgeport in 1933, served as physician for the Fairfield County Jail for 12 years; in 1952, he became associated with the Hillside Home and Hospital, and was appointed medical director in February, 1954; he was a member of the medical staff at St. Vincent's Hospital; he was official boxing commission physician and a member of the Pequonnock Yacht Club, died in St. Vincent's Hospital, Bridgeport, August 15, 1960, aged 56.

Romaine, Frank G.—Bridgeport; Hahnemann Medical College, 1948; served as staff physician at the Fairfield County Jail since last May; he was a member of St. Luke's Physician and Dental Guild, the Park City Council, Knights of Columbus, Bridgeport Council of Catholic Men, the Fairfield County Medical Association and the State Medical Society, and the Connecticut Chapter, Academy of General Practice; died at his home August 21, aged 42 years.

Wilson, McLeod C.—West Hartford; Cornell University Medical College, 1904; retired medical director of the Travelers Insurance Company; joined the New York office of the Travelers in 1907 and three years later was transferred to the Hartford office; medical director of the Accident and Group Departments for 25 years, he was appointed company medical director in 1945 and served in the capacity until his retirement 11 years ago; Dr. Wilson pioneered many advances in the field of insurance medicine; died at Hartford Hospital August 21, at age of 79 years.

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Special Notices

NEW RESEARCH FELLOWSHIP ANNOUNCED

The New Haven Heart Association has established the Abel Holbrook Research Fellowship to contribute to a continuing program of productive research and to develop future leaders in the broad field of cardiovascular function and disease. Holbrook Research Fellowships are open to graduates of approved medical or graduate schools who will be working full time—research under established investigators or heads of departments of institutions in the area of the New Haven Heart Association.

These Fellowships are primarily intended for individuals starting a research career.

The first Holbrook Research Fellowships will begin July 1, 1961. Applications are now available and must be submitted not later than November 15, 1960.

Application forms and further information may be secured from:

Education Committee
New Haven Heart Association, Inc.
231 College Street
New Haven 10, Connecticut

AMERICAN MEDICAL ASSOCIATION TO STAGE SECOND NATIONAL CONFERENCE ON THE MEDICAL ASPECTS OF SPORTS

The Second National Conference on the Medical Aspects of Sports sponsored by the American Medical Association, under the auspices of the AMA Committee on the Medical Aspects of Sports, will be held in Washington, D. C. at the Statler Hotel on November 27, 1960. The Conference will immediately precede the annual Clinical Meeting of the American Medical Association, November 28—December 1, 1960.

As was true of the first meeting on this subject at Dallas, Texas, in November, 1959, the Second Conference will cover a wide range of subjects. Included will be papers, panels, and discussions relating to training and conditioning, prevention of injuries, recognition referral and treatment of injuries, the psychology of sports participation and other subjects.

Those interested in receiving announcements concerning the Conference should address The Secretary, Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn, Chicago 10, Illinois.

HARTFORD HOSPITAL

SATURDAY MORNING 11 O'CLOCK GUEST SPEAKERS SEPTEMBER 22 to DECEMBER 17, 1960

Sept. 22-24 (Three Day Visiting Surgeon)—Warren H. Cole, M.D., Professor of Surgery, Univ. of Illinois.

Sept. 22—Surgical Ward Rounds.

Sept. 23—12:00 Noon—Carcinoma of the Stomach.

Sept. 24—8:30-10:00 A.M. Cancer Dissemination and Chemotherapy of Cancer.
11:00 A.M. Current Concepts of Disease of the Biliary Tract.

Oct. 1—S. J. Thannhauser, M.D., Emeritus Professor of Medicine, Tufts University School of Medicine. Subject: Case Presentation.

Oct. 8—Speaker and subject pending.

Oct. 15—Lester Adelson, M.D., Pathologist and Chief Deputy Coroner, Cleveland, Ohio. Subject: Sudden Death in Coronary Artery Disease: The Cardiac Conundrum.

Oct. 22—George Ludwig, M.D., Associate Professor of Medicine, Univ. of Pennsylvania. Subject: Indole Metabolism.

Oct. 29—R. Gordon Douglas, M.D., Professor of Obstetrics & Gynecology, Cornell Medical School. Subject: 10.00 A.M. Hemorrhage Control in Gyn. Surgery. 11:00 A.M. Physiopathology of the Uterine Isthmus.

Nov. 5—Gustav Lindskog, M.D., Professor of Surgery, Yale Univ. School of Medicine. Subject: The Surgery of Thoracic Disorders.

Nov. 11-12—Robert E. Cooke, M.D., Professor of Pediatrics, Johns Hopkins Univ. School of Medicine. Nov. 11 A.M. and P.M. Rounds on Pediatric Service. Nov. 12 11:00 A.M. Recent Advances in Pediatrics.

Nov. 17-19 (Three Day Visiting Surgeon) — Jonathan E. Rhoads, M.D., Professor of Surgery, Univ. of Pennsylvania. Subject pending.

Nov. 26—John Riege, Hartford, Connecticut. Subject: Corporate Medical Practice and the Law.

Dec. 3—Neil W. Swinton, M.D., Surgeon, Lahey Clinic. Boston. Subject: 9:00 A.M. The Present Relationship of Polyps in CA of the Bowel. 11:00 A.M. CA of the Bowel.

Dec. 10—John Heller, M.D., Director, Sloan-Kettering Institute, Memorial Hospital, N.Y.C. Subject: 11:00 A.M. Virus and Human Cancer.

Dec. 17—Frank Gregg, M.D., Associate Clinical Professor of Medicine, Univ. of Pittsburgh. Cardiologist, Pittsburgh Diagnostic Clinic. Subject: 9:00 A.M. Medical Ward Rounds. 11:00 A.M. Hypophysectomy for Uncontrollable Diabetes.

POSTGRADUATE SERIES IN OPHTHALMOLOGY

A series of teaching conferences planned especially for the ophthalmologist and conducted by the Section of Ophthalmology, Dr. Rocko M. Fasanella, Chairman. October 28—February 17. Usually on alternate Fridays, 3:45-5:00 P.M. Beaumont Room, Sterling Hall of Medicine, 333 Cedar Street. Fee (for series): $25.

Advance registration and fee may be sent to the Office of Postgraduate Education.

Oct. 28—Title to be announced. Dr. John Dunnington.

Nov. 11—*Ocular Pressure Regulation and Fluid Balance.* Dr. John McLean.

Dec. 16—*Complications of Intraocular Surgery.* Dr. P. Robb McDonald.

Jan. 13—*"Use of Conjunctive Flap in the Treatment of Corneal Disease."* Dr. Trygve Gunderson.

Jan. 27—*Utilization of Parotid Duct Transfer for Total Xerophthalmia.* Dr. Robert Chase.

Feb. 10—*Indications for Pleoptics.* Dr. C. C. Clarke and Miss Rhoda Inventasch.

Feb. 17—*Eye Patients and Peripheral Vascular Complications.* Dr. Michael Hume.

Checks for tuition fees should be made payable to Yale University.

ANNOUNCEMENT FOR GENERAL PRACTITIONERS AND INTERNISTS

Applications for Charter Membership in the American Society of Diagnostic Radiology are now being received. Membership is open to General Practitioners and Internists *who do or may desire to do some types of Diagnostic Radiology in their offices.*

For further information please write Louis Shattuck Baer, M.D., F.A.C.P., 411 Primrose Road, Burlingame, Calif.

THE CONNECTICUT TRUDEAU SOCIETY CONFERENCE

The Connecticut Trudeau Society will sponsor a Pembine Conference at Gaylord Farm Hospital, Wallingford, Connecticut, on Thursday, December 1, 1960, from 10:30 A.M. to 5:30 P.M. Dr. Edward Welch of Boston, Massachusetts, will moderate the program.

Cedarcrest Hospital and Gaylord Farm Hospital will present cases illustrating problems in diagnosis and treatment.

Antibiotic Warrants Attention As Cancer Inhibitor

Actinomycin D, an antibiotic isolated in 1954, has demonstrated sufficient antitumor potency to warrant a study of its ability to inhibit cancer.

An article on the effect of the antibiotic on childhood tumors appears in the current Journal of Diseases of Children, published by the American Medical Association.

Actinomycin D was administered intravenously to 12 youngsters with inoperable malignancies during a two-year study at the General Medicine Branch, National Cancer Institute, National Institutes of Health, Bethesda, Md. Antitumor responses were observed in seven.

"The antitumor effect of actinomycin D in six of the 12 patients was very dramatic," the article said.

"The rapid reduction in size of tumor masses within a few days and the prompt reversion of severe metabolic abnormalities towards normal . . . indicate that this compound is very active in certain childhood neoplasms.

"Unfortunately the duration of the remissions is short, usually about four to six weeks."

However, the authors of the article said "the marked, albeit transient, antitumor effect of this antibiotic indicates that this class of compounds deserves major attention in cancer chemotherapy investigation."

They said the antibiotic is of interest in cancer chemotherapy for several reasons.

Mobile Operating Rooms Urged For Emergencies

Mobile operating rooms that could go to the aid of heart attack victims were recommended today by two Cleveland surgeons.

Drs. Claude S. Beck and David S. Leighninger, writing in the current Journal of the American Medical Association, suggested that mobile units be sent to victims whose hearts are revived by the open chest, manual massage technique.

The purpose of the mobile operating unit would be to restore the patient's heart to a normal rhythm and close the chest at the scene of the emergency.

Success is "more likely" if the operating room with trained personnel is moved to the victim instead of the victim being moved to the hospital, they said. Artificial respiration, essential to the survival of the patient, may be interrupted while he is being transported to the hospital, they pointed out.

The two surgeons made the recommendation after discussing the incidence of death in "hearts too good to die." They said a two-year survey of 500 heart attack victims listed by the Cuyahoga County Coroner's office, Cleveland, showed that in 63 per cent of the cases there was no evidence of sufficient heart damage to cause death.

"These figures indicate the size of this problem," they said.

They explained that a good heart could fail when its supply of oxygen is cut off (anoxia) or when its oxygen becomes unequally distributed causing a convulsive beat (fibrillation). For example, anoxia can be caused by suffocation, choking, or drowning and fibrillation can be caused by lightning striking the body.

When a structurally sound heart stops beating, they said, it may need only a "second chance" to cheat death. The cardiac massage technique is becoming increasingly successful in surmounting the temporary difficulty of the healthy heart, they said.

Dr. Beck is professor of cardiovascular surgery and Dr. Leighninger is senior instructor in surgery, cardiovascular section, Western Reserve University.

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COSMETICS:

The Dermatologist's Responsibility to the PRODUCT, the PATIENT, and the PROFESSION

HERBERT J. SPOOR, Ph.D., M.D.*
New York, N. Y.
Department of Medicine (Dermatology)
New York Hospital, Cornell University
College of Medicine

SYNOPIS 1

Cosmetic materials are defined in statutory, chemical and medical terms. The fundamentals of chemical formulations are given together with a brief description of how the basic cosmetic formulae may be changed by addition of special ingredients to produce products of particular purpose. Functional and aesthetic additives such as foundation and make-up pigments, lipstick stains and hair dye colors are described and their mode of action on the skin and its appendages explained.

A DISCUSSION on cosmetics must start out with a definition of the term, and perhaps the best introduction to the subject is the statutory description as stated by the Federal Food, Drug, and Cosmetic Act.[1] The law defines the term "cosmetic" as follows (Fig. 1): First, these are articles intended to be rubbed or sprinkled, or sprayed, or introduced into, or otherwise applied to, the body, or any part thereof, for cleansing, beautifying, promoting attractiveness, or altering the appearance; and secondly, articles intended for use as a component of any such article, except that such term shall not include soap. This is the letter of the American Act. The Canadian Act differs slightly. Here, the term "cosmetic" includes any substance or mixture of substances, manufactured, sold, or represented for use in cleansing, improving, or altering the complexion, skin, hair, or teeth, and includes deodorants and perfumes. When discussing cosmetics with those who are in charge of interpreting the law, one generally can obtain the following interpretation from both the United States and Canadian authorities. This interpretation is: If the effect of a topically applied agent is on any part of the skin, its cells, or an appendage of the skin in continuity with it, such as its glands, that effect will not be considered systemic, and the product will be classed as a cosmetic.

The definition of cosmetics as given by the cosmetic industry naturally differs somewhat from the strictly legal interpretation of the several Food and

FIGURE 1
Cosmetics — Definition

Statutory

Federal Food, Drug and Cosmetic Act

The term "cosmetic" means (1) articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance and (2) articles intended for use as a component of any such article; except that such term shall not include soap.

Canadian Act

"Cosmetic" includes any substance or mixture of substances manufactured, sold or represented for use in cleansing, improving or altering the complexion, skin, hair or teeth, and includes deodorants and perfumes.

Interpretation

If the effect of a topically applied agent is on any part of the skin, its cells, or an appendage of the skin in continuity with it, such as its glands, that effect will not be considered systemic and the product will be classed as a cosmetic.

Presented before the Connecticut State Medical Society, Section on Dermatology, April 29th, 1959.

FIGURE 2

Cosmetics — Definition

	Industry
For the skin:	Creams, soaps, lotions, powders and colors;
For the hair:	Shampoos, lotions, oils, pomades, waving agents, fixatives, bleaches, dyes and dye removers;
For the nails:	Lotions polishes, colors and accessories;
For hygiene and psyche:	Deodorants, antiperspirants, hair removers, oral preparations, suntan products and perfumes and other aromatic materials.
	Dermatologist
Non-Reactive Cosmetics	(adornment only) Cleansers, emollients, powders (allergic reactions only);
Active Cosmetics	(modify skin or appendage) Stimulants, germicides, lipsticks, hair waving products, hair dyes, depilatories, antiperspirants (allergic reactions plus structural change).

Drug Acts. Industry has products for the skin; these are creams, soaps, lotions, powders and colors; products for the hair—shampoos, lotions, oils, pomades, waving agents, fixatives, bleaches, dyes and dye removers; for the nails—lotions, polishes, colors and accessories; and, for hygiene and the psyche—deodorants, anti-perspirants, hair removers, dentifrices and other oral preparations, sun tan products, and perfumes and other aromatic materials (Fig. 2).

Our final definition must be that of the dermatologist. He defines cosmetics rather more simply: they are non-reacting cosmetics, which are products for adornment only, and include skin cleansers, emollients and powders; and the active cosmetics, or those cosmetics which profess to, or actually do, modify skin or appendages. These may be further classified into stimulants, germicides, lipsticks, hair-waving products, hair dyes, depilatories and anti-perspirants. In the first group of the dermatologist's classification, he may expect to see true allergic sensitization reactions only; while in the second group, namely, the active cosmetics, he may have any of these allergic reactions plus some structural change to the part that was affected by the particular active ingredient of the agent in use. As dermatologists, we must know what these products are, how they affect the patient "for good and bad" and what we as individuals owe to ourselves and to our profession when we recommend or decry the use of a particular product to the patient, or when we, in our published work or testimony, recommend one product for a particular purpose over another.

Fundamentally, the first thing we must know is what we are talking about when we refer to cosmetic materials. I am not going into any exhaustive chemistry, but there are a few basic concepts of cosmetic formulation that, I believe, should be clearly understood. The next chart presents a basic cosmetic formula, and from this basic formula, shows those adjustments in formulation that are used to create specific products (Fig. 3).

Basically, all cosmetics may be considered to depend upon an oil and water emulsion, the oil most commonly being inert petroleum. In this respect, they are like the ointment bases that are used for precription writing. In Table 1, one can see, under "Listings of Common Name, Formula and Supplement, and Additive Action," several materials that are used cosmetically and with which we are familiar. The first of these is cold cream, and it may be considered the basic formula for the entire group of cosmetics. Cold cream is essentially: mineral oil—50 per cent, beeswax—15 per cent, water—33 per cent, emulsifier—2 per cent, preservative and perfume—quantities sufficient for the purpose of sale. The beeswax is added to the formulation to produce hardness, or texture, while the preservative is present to prevent mold growth during storage. The percentages of the several ingredients may be varied a great deal, depending upon the emulsifier that is used. In this particular basic formulation, the "troublemakers," if we as dermatologists may consider them troublemakers, will be the emulsifiers and the perfumes. The preservatives that are used are usually time-tested and quite safe. Benzoic

FIGURE 3

Basic Cosmetic Formulae

OIL IN WATER (O/W) EMULSIONS

Common Name	Formula and Supplement	Additive Action
Cold Cream	Mineral Oil—50%	
	Beeswax —15%	
	Water —33%	hardness
	Emulsifier — 2%	
	Preservative Perfume } Q S	prevent mold
Emollient Cream	Vegetable Oil—10%	
	Lanolin —10%	skin softening agents
	Antioxidant	
All Purpose Cream	Fatty Acid Esters Lanolin	spreading
	Glycerine (sorbo)	humectant
	Citric Acid	pH regulation
Vanishing Cream	Stearic Acid	slip and sheen
	Potassium Hydroxide	in situ emulsifier

WATER IN OIL (W/O) EMULSION—adherence and coverage, i.e. foundations and pomades

TRANSPARENT EMULSIONS AND SOLUTIONS—colognes and molded products

PASTES AND POWDERS—mineral oxides only. Note: Titanium oxide

Table I

Cosmetic Pigments

	Foundation and Makeup
COLOR	INORGANIC PIGMENT
silver	aluminum powder
white	zinc oxide, titanium oxide
black	carbon, iron oxide
yellow	ochre, sienna (Fe and Mn oxides)
red	red ochre (iron aluminum silicate)
brown	umbers, burned sienna (iron hydroxides)
blue-violet	ultramarine blue (sodium aluminum silicate and sulfur)
green	chrome oxide
red	carmine (aluminum lake of cochineal)
(Natural pigments, no certified colors)	
	Lipstick Stains
COLOR	
Eosin red	Bromo Acid (Tetrabromo fluorescein)
D & C Red #21)	orange to red on fixation to lip protein
orange-red	
(D & C Orange #5)	Halogen derivatives of
blue-red	
D & C Red #27)	fluorescein
	Hair Dye Colors
Bleaches—	Peroxides
Temporary Colors—	Certified azo dyes
Permanent Colors—	Natural organic—henna, camomile, indigo
	Synthetic organic—pyrogallol, paraphenylene diamine
	Metallic—lead, silver, copper

acid was the original preservative that was used, but today, the materials that are in most products are esters of parahydroxybenzoic acid, either propyl or butyl. These are known in the trade as "butaparaben" or "propylparaben." For special purposes, mercury compounds sometimes are used. This is particularly true in some of the eye lotions, where the organic acids might be too irritating. Here, most frequently an organic mercury compound is used. Preservatives are seldom, if ever, used in concentrations greater than ½ of one per cent, and, as I said, the fundamental purpose is to prevent mold, to maintain decent shelf-life for the product. Continuing down the table, the difference between ordinary cold cream and an emollient cream amounts to simply the addition of some vegetable oil. It may be saturated or unsaturated. It is usually a mixture of both. Most frequently it is cocoanut oil, or possibly cocoanut and cottonseed oil. In addition to this, the emollient cream contains lanolin. Both the oil and the lanolin are skin softening agents. Thus, with the emollient cream, one introduces additional factors which may lead to some degree of sensitization. In the past, lanolin has been quite a troublemaker, but in recent years the material has been purified and fractionated so the lanolins used in most cosmetics today are not particularly sensitizing.[2]

The next cream listed is an all-purpose cream. Here, the desire is to add the property of moisturizing to the preceding creams. So, in addition to the vegetable oil, lanolin, etc. . ., fatty acid esters have been added to increase the spreading of the cream, and either glycerin or sorbo (sorbitol) is added to retain water (the technical term for this activity is "humectant"). The all-purpose cream is essentially a moisturizing cream.

The next cream on the list is vanishing cream. This is one of the original types of cream because it was relatively easily made with stearic acid and potassium hydroxide, the two reacting to produce a soap which was the *in situ* emulsifier. The soap ingredients would then hold the mineral oil and beeswax in suspension. Another advantage of stearic acid was that it gave a visible cream with definite slip and good-looking sheen. Vanishing creams are used only infrequently today.

Now, the creams which have been discussed, of course, occur in thousands of variations, but there is one other basic type of formulation to discuss. In the first group of creams, we had what was called an oil and water emulsion, which meant that in formulation the oil component was surrounded by an envelope of water. Upon application, the water evaporates, leaving an oil film or oil slick directly in contact with the skin. This type of cream is satisfactory for cleansing or lubrication but, when it comes to the formulation of make-ups, the oil and water emulsion is not satisfactory. For this purpose, one uses a water and oil emulsion. In this instance, the oil phase surrounds the water phase in the physical formulation, so that the actual particle in contact with the skin originally is the oil, and the water of the formulation is held within an envelope of oil, so, consequently, does not get the chance to evaporate. This type of emulsion gives a product that has greater adherence and greater coverage, and it is therefore the basis for all foundation preparations, make-ups and pomades.

Another very common variant of the cosmetic formulation is the so-called "transparent" emulsion, and the solutions. Here, one finds the colognes and the molded products that are used, e.g., one can think in terms of the solid colognes and the anti-perspirant sticks, and products of that type.

The final type of formulation is pastes and powders. These, too, are emulsions because no paste or powder would remain applied if it did not have a basic oil and water emulsion as the carrying vehicle, but the pastes and powders, of course, have a much higher content of mineral oxide, which gives them not only body but also color.

At this point, it might be well to note that if it were not for the development of purified titanium oxide, there would be no such thing as satisfactory foundation make-ups and products of that nature, because none of the other oxides have sufficient spread or adhering power. It was titanium oxide that revolutionized the paint industry, just as it has revolutionized the powder and foundation industry.

Now, before leaving this discussion of formulations, I should like to re-emphasize that to any of these products or to any variation of these products can be added so-called "active" ingredients; in other words, if one wants a stimulant for the skin, the stimulant is added to the basic formulation; and, on the other hand, if an astringent is desired, that astringent is added to the formulation; or, on more familiar ground, the aluminum salts may be added to act as anti-perspirants.

Before going on to the more dermatological problems, there is one other major additive to all cosmetic materials that we must consider, and that is the group of cosmetic pigments. Table 1 shows these pigments as they are used. For the foundation and make-up material, the only pigments that are used are natural inorganic pigments. As listed, one can see that the common ingredients are the colored mineral oxides that we know. In proper combination, these will produce practically any color desired in a formulation. I might point out at this time that none of these mineral pigments has been incriminated as a sensitizer or troublemaker in dermatology. Listing through, we have the color silver from aluminum powder; white, from zinc oxide or titanium oxide; black, from carbon or iron oxide; yellow, from ocher or sienna, which are iron and manganese oxides; red, from red ocher, which is iron and aluminum silicate; brown, from the umbers and burnt sienna, which are iron hydroxides; blue-violet, from ultramarine blue, which is sodium aluminum silicate; green, from chrome oxide; red, from carmine, which is an aluminium lake of cochineal. All are natural pigments. No certified colors need be used in the foundations and make-ups.

This is not the case with lipstick stains. Prior to fairly recently, lipstick stains too were made up entirely of inorganic pigments, but the products did not remain on the lips. The basis for all lipstick dyes that are at all satisfactory is the so-called "bromo-acid," or tetrabromfluorescein. The numbers in brackets, i.e. Red No. 21, is the Drug and Cosmetic Certification Number, and the technical chemical name for the sodium salt of tetrabromfluorescein is eosin red. This particular dye combines with the protein of the lip and then changes color from an orange to a red upon fixation. The final red stain is part lip and part tetrabromfluorescein. Therefore, it is a reasonably permanent dye, and it is probably this intimacy of contact that accounts for the fact that this particular dye is a troublemaker—or *the* bad actor—from the standpoint of sensitization to lipsticks.

The several variations in color of lipsticks may be produced by the orange-red from D and C orange or the blue-red from D and C red. These are halogan derivatives of fluorescein; usually instead of tetra-brom they are di-chlor, di-brom, or some other combination that will produce a similar material to the brom-acid. The fundamental thing to remember is that the permanence of all lipstick stains is attained by the brom acid and the reason for this permanence is that there is an actual combination of the dye with lip protein. The substitutes for this particular type of permanent stain are the natural pigments such as have been listed above, and the only one of reasonable value in this particular instance is carmine. Recently the brom-acids have been decertified and theoretically should no longer be used in lipsticks. Now, the reason that the brom-acids or the so-called "certified" dyes have been taken off of certification by the Food and Drug Administration is that there have never been specific limits of toxicity set. These compounds are capable of being poisonous. As the law is now set up, the Food and Drug Administration, if a case of poisoning were to occur, would be duty bound to withdraw everything from the market that had any of that particular poison in it, because there are no tolerances established. The maneuver that the Administration has used by decertifying these colors is to attempt to have industry establish limits of toxicity, so that they would be able to say that a particular quantity of dye could be used in a particular lipstick, and then one would not get into the competitive situation where one company's product is much more permanent than another's, and being much more permanent, much more prone to produce damage, or possibly, likely to produce poisoning. From now on, before a company can use a certified dye, or get a dye re-certified for use, for example, in a lipstick, that dye will have to have had established limits of toxicity, so that it may be used within a certain range, not be used beyond that range. In this manner, instead of the Food and Drug Administration's having to carry the responsibility for allowing things to be sold that it knows are toxic, the responsibility for the lack of toxicity of a particular product is pushed back upon the manufacturer. This ruling conforms to the other regulatory interpretations particularly to those of the Food Additives Law which has recently been passed.

The next group of cosmetic pigments are the hair dye colors. Here we have primarily the bleaches, which are basically all peroxides. The temporary colors again are certified azo dyes, although not necessarily those used in lipsticks. Certified food colors can also be used for temporary colors or hair rinses. The other group are the permanent colors. Here we have both natural and synthetic colors. The natural dyes are organic materials obtained from henna, chamomile and indigo. The synthetic organics are basically pyrogallol or paraphenylenediamine, or, currently, paratoluidine diamine. The metallic dyes are lead, silver, and copper. Of this group of permanent dyes, the troublemaker is the synthetic paraphenylenediamine. The metals, strangely enough, have not produced poisoning,[3] but, as is so often the case, the most troublesome material, or the black dye that is used for dying furs and hair, is also the most satisfactory and most effective, so that most products for dying the hair, even if the shade is not black, have some paraphenylenediamine or paraphenylenediamine derivative in them. So, this is the material that is the sensitizer; this is the material that one must watch.

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(This is the first of a series of three articles.).

Surveys in Diagnostic Radiology

Unemotionally approached retrospective surveys of the cumulative effect of repeated radiologic diagnostic procedures should be undertaken, particularly because "conflicting and contradictory articles tending to confuse rather than to clarify the situation have appeared."

From the time that Roentgen discovered the x-ray, about 65 years ago, to the present, the use of ionizing radiation and man's exposure to it has expanded enormously. Responsible scientific and medical institutions and individual authorities have suggested that "certain specific types of harmful somatic and genetic effects might be more significant at lower dosage levels than had been recognized" and therefore require investigation.

In this field one advantage of a retrospective study is that 65 years of experience with diagnostic radiology offers an acceptable follow-up period. Also, large groups were subjected to unusual amounts of radiation because of the nature of their diseases, thus providing the necessary human material that can make such a survey fruitful.

For example, in this issue of the Journal, a 37-year survey of long-term effects of serial fluoroscopies indicates that "the incidence of neoplastic disease . . . and of congenital anomalies occurring in the progeny failed to demonstrate any significant effects."

Retrospective surveys are subject to criticism. ". . . Dosimetric, statistical and epidemiologic pitfalls [are] to be avoided. . . . It would be unfortunate if any of these projects ended with the publication of the original article." However, such surveys, and small ones as well, carefully and critically prepared and conducted, are well worth while. And before the final word is said, "there should be more work and less speculation." *(New England J. Med. 262:1038, May 19, 1960.)*

LAPAROTOMY AND THE DIAGNOSIS OF JAUNDICE IN CHILDREN

With Illustrative Case Reports

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Problems in diagnosis and proper management of jaundice in infancy and childhood are frequently encountered by pediatricians and surgeons. The early management of these patients is of the utmost importance, since the battle for preservation of liver function is frequently won or lost within the first days or weeks of illness. In many instances, laparotomy is indicated, not only for treatment of extrahepatic obstruction, but also for establishing the definitive diagnosis and serving as a guide for future therapy.

In those patients in whom the onset of jaundice occurs within the first year of life, extrahepatic obstruction deserves prime consideration. It has been reported that in children under one year of age, mechanical obstruction exceeds hepatocellular disease as a cause of jaundice in a ratio of 3 to 2.[1] Although the so-called liver function tests often assist in differentiating jaundice due to extrahepatic obstruction from that due to hepatocellular disease, it is in this group of very young patients that the tests are the least reliable.[2] Only in instances of almost pure retention jaundice, as in hemolytic disease and in congenital syndromes of disordered bilirubin metabolism, is the serum van den Bergh reaction of real differential value. Flocculation tests, serum alkaline phosphatase levels and bromsulphalein retention are notoriously unreliable. Perhaps the two most helpful laboratory determinations are free serum cholesterol and the serum glutamic-oxalacetic acid transaminase (SGOT), yet these tests are rarely conclusive in themselves. Laparotomy may be the only certain way to establish a diagnosis and to continue treatment intelligently.

Illustrative Case Report

A case in point was that of D. W., a white female, who was first seen at age six months with the chief complaint of jaundice of six days' duration. For several days the urine had been dark and for two days the stools had been clay-colored. Pruritus was not noted.

The patient was the youngest of three siblings. The child's gestation and neonatal period had been without incident, and there was nothing by history to suggest infectious or toxic hepatitis. Growth and development had been normal. Weight was 17.5 pounds as compared to her birth weight of eight pounds. Temperature was normal as were the remainder of the vital signs. On physical examination she was obviously icteric. General examination was otherwise unremarkable except for a vaguely defined, soft mass palpable below the liver edge. Laboratory determinations showed a normal hemogram, urinalysis, total serum protein, albumin/globulin ratio, and prothrombin time. Total bilirubin was 11.96 mgm. per cent with 6.68 mgm. per cent one minute direct-reacting. Serum alkaline phosphatase was 38.5 Shinowara-Jones-Reinhardt units (Normal range 2.2- 12.6), cephalin flocculation zero, and thymol turbidity 4.2 units. Plain films of the abdomen, upper gastrointestinal series and intravenous pyelography confirmed the presence of a right upper quadrant mass with displacement of neighboring structures, but these films failed to demonstrate intrinsic upper gastrointestinal or genitourinary pathology (Figures 1a and 1b).

On the fifth hospital day, the patient underwent laparotomy with the preoperative diagnosis of choledochal cyst. This diagnosis was confirmed at operation and the liver was noted to be enlarged and smooth. The gallbladder was normal in appearance, the cyst having arisen from the common bile duct about 0.5 cm. distal to the cystic duct. The cyst measured 9 cm. in diameter and contained golden bile. After taking a liver biopsy specimen and performing a cholangiogram (Figure 1c), a choledochocyst-duodenostomy was performed. The cyst wall was biopsied and because the cecum lay

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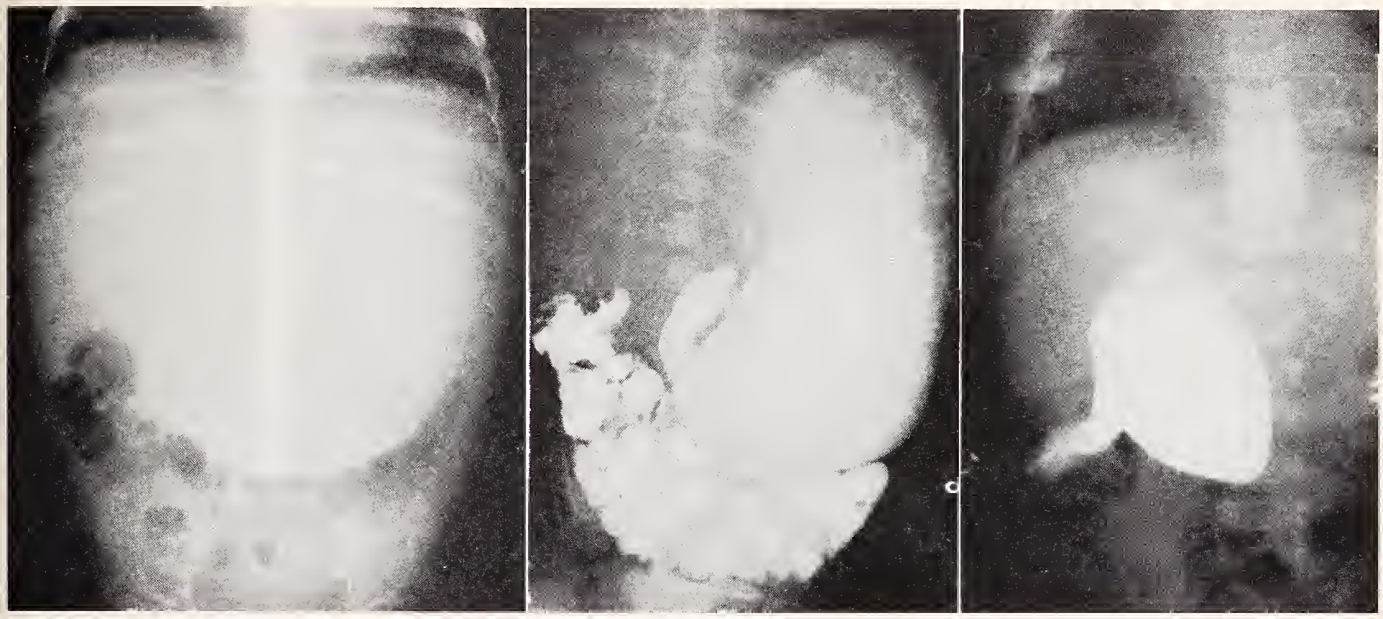

FIGURE 1A FIGURE 1B FIGURE 1C

PATIENT D.W.:

FIGS. 1A. Plain film of the abdomen demonstrates the marked downward displacement of the colon. 1B. The lateral displacement of the barium filled stomach by the cyst is clearly seen. 1C. Injection of contrast material into the gallbladder flows freely into the choledochal cyst. There is angulation obstruction of the distal common duct.

in the right upper quadrant, the appendix was removed. The postoperative course was benign and the patient was discharged on the eighth day after operation. The total serum bilirubin fell to 1.2 mgm. per cent postoperatively and the alkaline phosphatase to 9.2 S.J.R. units.

Microscopic sections of the cyst wall showed fibrous tissue lined with columnar epithelium. Histologic examination of the liver demonstrated portal zones broadened by an increase in connective tissue and bile duct proliferation, centrilobular bile stasis, and considerable disarray of lobular architecture consistent with changes due to moderately prolonged common duct obstruction. The appendix was normal.

Discussion

The rather abrupt onset of jaundice in an otherwise healthy child, along with the abdominal mass and high alkaline phosphatase, pointed toward the need for early operative intervention. The rather striking morphological changes in the child's liver despite the brief clinical history of icterus indicated that subtotal biliary tract obstruction had existed for some time. Further delay in operation might well have permitted further functional and structural deterioration.

In older children hepatocellular disease, chiefly viral hepatitis, is a more frequent cause of jaundice than is mechanical biliary obstruction in a ratio of 20 to 1.[3] In general, the history of these children is more helpful than in the younger age group in establishing a diagnosis of hepatitis usually without the necessity of operative intervention. If, however, there is no definite clinical and laboratory improvement in two to three weeks, and a trial of steroid therapy has not been of certain benefit, laparotomy may be necessary to establish the diagnosis.

Illustrative Case Report

Such an instance was that of a 10-year-old white female who was first seen with a four-week history of jaundice accompanied by a 20-pound weight loss.

There was no history of previous jaundice, hemolytic disorder, recent infections, or exposure to drugs or known hepatotoxic agents. On physical examination there was, in addition to icterus, a generalized brown macular rash and a smooth liver edge palpable 3 cm. below the right costal margin. The liver was slightly tender. There were no other palpable organs or abdominal masses. There was mild generalized lymphadenopathy but no palmar erythema or spider angiomata. Complete blood count and urinalysis were normal and there was a slight reversal of the albumin/globulin ratio (3.1/4.0 gm. per cent). Total serum bilirubin was 16.04 mgm. per cent with 7.4 mgm. per cent in the indirect fraction. Bromsulphalein retention was 43.4 per cent in 45 minutes, SGOT 93 units (Normal range up to 40), and alkaline phosphatase 14.7 S.J.R. units. Stools were inconstantly clay-colored. Treatment with dexamethasone at a level of 2 mgm. three times daily was started and the patient was discharged to outpatient follow-up after 11 days in the hospital.

When seen two weeks later, the patient had gained 4.5 pounds but there was little change in the clinical icterus and the liver was now palpable 4.5 cm. below the right costal margin. At this time the liver function tests were essentially unchanged and upper gastrointestinal series, barium enema and intravenous pyelography were unremarkable. Exploratory laparotomy was carried out with the diagnosis of probable viral hepatitis. The liver was enlarged and smooth. The extrahepatic biliary ductal system was normal by direct inspection and cholangiography. A liver biopsy was performed. Postoperatively the course was smooth and the patient was discharged on the eighth postoperative day, the jaundice having diminished considerably.

Histologically the liver showed cholestasis and slight lobular disarray compatible with intrahepatic impairment of canalicular drainage or bile secretion but without evidence of significant cell damage. However, this picture was quite compatible with extrahepatic biliary obstruction. Without the normal biliary tree as seen at operation and by cholangiography, obstructive jaundice would have been the diagnosis of choice. Needle biopsy alone probably would have been insufficient to make an accurate diagnosis of cholestatic jaundice in this patient.

Discussion

In this institution Vim-Silverman percutaneous needle biopsy of the liver has not been used in infants and children. The greater possibility of complications, especially bleeding, is a prime factor for its lack of use. Children are less likely to remain immobile during this procedure and the size of the specimens obtained is often inadequate for diagnosis. Most important, in infants and children the histologic examination of the liver biopsy specimen is too frequently not enough to distinguish clearly between hepatocellular and obstructive liver disease. In children with long-standing mechanical obstruction cellular distortion of significant degree may be seen, while bile stasis is often a striking feature of primary hepatocellular disorders.

The desirability of laparotomy for the treatment of extrahepatic biliary obstruction is uncontested. Laparotomy for diagnosis in the problem patient should be used earlier than has been the practice in the past. The risk of this procedure is not high when liver function is not too deranged and several important facts may be established, not the least of which is the gross and histologic appearance of the liver. Liver biopsy should always be done at the beginning of the operative procedure so that operative manipulation of the liver during later stages of the operation will not alter the histologic picture of the biopsy. Simple wedge biopsy of the accessible edge of the liver with suture control of bleeding has been found to be satisfactory. In certain instances, a different area may be chosen as the biopsy site, especially if the disease process seems to be focal in type, i.e., primary or metastatic tumor.

Direct and contrast visualization of the extrahepatic biliary tree is of vital importance. A cholangiogram should be obtained by injection of radiopaque material through the gallbladder if it is present. The bile duct structures then should be dissected carefully in order to allow precise identification of the common bile duct with safety. In all instances where the common duct is thought to be absent a search should be made in the region of the liver hilum for hepatic ducts since these may be useful for enteric anastomosis. In dissection of the porta hepatis the surgeon must proceed with gentleness and care since injury to these delicate and important structures must be avoided.

An attempt has not been made here to describe the operative treatment of extrahepatic biliary obstruction. Rather, emphasis has been placed on the role of laparotomy as a diagnostic tool in jaundice of infancy and childhood. Frequently this will be the only reliable way to resolve the difficult problem of pediatric jaundice.

Summary

The problem of jaundice in children has been reviewed briefly. Extrahepatic ductal obstruction may be present or the cause for the jaundice may be hepatocellular disease. Laparotomy offers an opportunity for diagnosis and therapy in many patients. Two illustrative case reports are presented in which this procedure was utilized early in the course of the disease when diagnosis was unclear and before irreversible liver damage occurred.

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CONNECTICUT AND ITS CEREBRAL PALSIED CHILDREN

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As today's practitioners are well aware, Americans have come to assume an abiding interest in matters pertaining to their health. This finds expression for one thing in constantly increasing appropriations for health projects at state and national levels. Or one may cite the growth of our national health organizations, each dedicated to one or another aspect of preventive and curative medicine. In recent years cerebral palsy, fortunately, has been receiving its due of public attention. With government agencies assuming expanding roles in research and education, organizations such as the National Society for Crippled Children and Adults and the United Cerebral Palsy Associations have increasingly underwritten the cost of clinical services. In Connecticut as well as nationally the medical profession has usually been in the forefront of these efforts, donating time, skill and counsel.

It is gratifying to record the participation of Connecticut's cerebral palsied children in this general advance. Since previous reports in the Journal[1,2] there has been a notable expansion of facilities for their care, education and recreation. All of our larger cities—New Haven, Hartford, Bridgeport, Waterbury, Stamford, New Britain—now have diagnostic and treatment centers of their own for cerebral palsy. The Crippled Children Clinics of the State Department of Health provide coverage for many of the remaining population areas, including smaller cities and adjacent rural territory. A brief description of regional facilities will be given in the second half of this article.

Cerebral palsy care has extended in depth as well as geographically. Most of the facilities just referred to offer fairly complete clinical coverage: diagnostic examinations, physical, occupational and speech therapies, psychological evaluation. Special needs—Xrays, surgery, bracing, specialist consultation—can usually be met. The urban cerebral palsy centers, often owing their inception to the efforts of parents with afflicted children, give ample recognition in their programs to the need for parental counselling.

One of the cheeriest notes in this report: nowadays we all realize that a boy or girl with cerebral palsy is first of all a child, secondly a patient. The education of these children, often difficult academically as well as from the standpoint of transportation, seems to provide a challenge which teachers and administrators have been increasingly willing to meet. Parents' groups have been active in behalf of their children, the State Department of Education contributing impetus as well as the necessary professional direction.

The greatest deficit in services to Connecticut's cerebral palsied patients—and this is generally true throughout the country—occurs after patients have reached maturity. As children they have been accustomed to receive in the way of medical care all that science, solicitude and ample funds can provide. Again as children, and as adolescents, their educational needs currently are understood and met better than was ever the case in the past. Today many severely handicapped young people are graduating from college with credit. . . . Then what? . . . The answer to this question, disheartening enough

SOME OF US
This photograph is published with the permission of the parents.

to the community which has invested so much of its time and interest, is incalculably disheartening to the afflicted individual who has travelled great distances only to find that the road leads nowhere. The plight of these young adults is set forth in a recent study.[3]

The approach to this problem area centers in the Bureau of Vocational Rehabilitation, State Department of Education. The patient's initial guidance often comes from a counsellor in the public school. The Bureau works in liaison with the state's several rehabilitation centers (see below) to provide vocational training suitable to the abilities of the patient, not neglecting to take into account his aspirations. Arrangements can also be made for advanced training and education where indicated. The next step—integration into meaningful community life—may be, and usually is, the longest and hardest. Some patients, unfortunately, never accomplish it. While growing public acceptance of the handicapped individual promises improvement for the future, the plight of severely involved cerebral palsied adults will be lessened only as the community directs toward them the same support and enthusiasm which it gave to them as children. A recent helpful step has been inauguration of an educational program for physically handicapped adults, a cooperative endeavor based on joint efforts of the State Department of Education and a number of interested communities.

It is pleasing to report that recreational outlets for cerebral palsied children are on the increase. "Social" groups often become a feature of rehabilitation centers once clinical requirements have been attended to. The purpose of one such group, the center points out, is not only to provide companionship for the child but to give his parents a spell of freedom as well. Swimming classes are held in a number of places, recognizing both the fun and usefulness of this sport—or splashy attempts at it. Established camp facilities for crippled children at Nichols and Vernon have lately been augmented by a third camp at Harkness Memorial Park and three day camps in the vicinity of New Haven and Waterbury.

* * *

The following list of regional facilities has been drawn up to indicate the growth and present coverage of services for cerebral palsied children. It provides convenient reference for referral of patients to locations nearest their homes. Only facilities to some degree emphasizing cerebral palsy are included—no attempt has been made to list all of Connecticut's orthopedic and physical therapy clinics nor to enumerate the many public schools offering remedial speech training. For a discussion of custodial care the reader is referred to a prior publication.[2]

Connecticut Facilities for Cerebral Palsied Children

NEW HAVEN AREA: Two clinics for children with neuromuscular handicaps are maintained by *Grace-New Haven Community Hospital,* one primarily diagnostic. The other, a treatment clinic, functions in co-operation with the *New Haven Area Rehabilitation Center.* The latter offers a full diagnostic and treatment program for handicapped children, including graded nursery school classes. At age 16 children are transferred to the Center's adult division, where treatment can be continued and prevocational training given in co-operation with the Bureau of Vocational Rehabilitation. Groups of handicapped children are accommodated at a summer day camp in East Haven. There are two classes for physically handicapped children at the *Prince Street School.*

HARTFORD AREA: The *Hartford Rehabilitation Center** has a full program for evaluation and treatment of various crippling conditions, including cerebral palsy. A sheltered workshop is maintained and prevocational training given with assistance of the Bureau of Vocational Rehabilitation. *The Newington Hospital for Crippled Children* provides complete diagnostic and treatment services, together with an educational program; the Hospital also maintains the summer camp at Vernon previously mentioned. Educational facilities for handicapped children are available in three schools in the Hartford area: *West Middle School* and *Naylor School* (Hartford), *Louise Duffy School* (West Hartford). A class for physically handicapped children is maintained in Manchester at the *Nathan Hale School.*

BRIDGEPORT AREA: *The Cerebral Palsy Center*** provides full diagnostic and treatment facilities. The *Crippled Children's Workshop and Physical Therapy Clinic** offers similar services, also programs for nursery school and kindergarten children, and prevocational training. (Discussions are being held with a view toward possible integration of services offered by these two organizations). The *Sheltered Workshop* provides employment opportunities for adults. Special classes for physically handicapped children are held at the *Elias Howe School* in Bridgeport and the *West Main Street School* in Milford. As previously mentioned, there is a summer camp for the handicapped at Nichols.*

WATERBURY AREA: The *Cerebral Palsy Association of Waterbury,* in co-operation with the Waterbury Hospital, provides a full diagnostic and treatment program for cerebral palsied patients, both children and adults. Nursery, kindergarten and other children's classes are held, as well as an adult education class. The Association runs a summer day camp and there is another in Wolcott.* *The Easter Seal Rehabilitation Center** also provides diagnostic and therapeutic services. Sheltered workshop facilities are available at the *Community Workshop.*

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* Affiliated with the Connecticut Society for Crippled Children and Adults, Inc.

** Affiliated with United Cerebral Palsy Associations, Inc.

STAMFORD AREA: *The Rehabilitation Center of Southern Fairfield County** offers a complete program for diagnosis and treatment, including a nursery school for physically handicapped children and vocational training (the latter in co-operation with the Bureau of Vocational Rehabilitation). The State Crippled Children Clinic is also held at the Rehabilitation Center (see below).

NEW BRITAIN AREA: *The New Britain General Hospital,* in association with the local branch of United Cerebral Palsy Associations, has recently inaugurated a treatment and counselling service for cerebral palsied children. Diagnostic examinations as well as physical and speech therapies are provided.

MERIDEN AREA: *The Meriden Rehabilitation Center,* a facility for treatment of the physically handicapped, has also been organized fairly recently. At present it offers chiefly physical therapy and social service; occupational therapy is to be added. The Center is in close liaison with the Meriden Hospital.

NEW LONDON-NORWICH AREA: A State Department of Health Crippled Children Clinic is held monthly, and a special cerebral palsy clinic quarterly, at the *Backus Hospital.* (For outline of clinic services provided by the Crippled Children Section see paragraph below). A nursery school is maintained in the New London area by the local Cerebral Palsy Association.** There is a summer camp at *Harkness Memorial State Park,* near Ocean Beach, with separate vacation periods for children and for adults with cerebral palsy; this is under the auspices of the Greater Hartford Cerebral Palsy Association.

Diagnostic and follow-up clinics for physically handicapped children are held monthly in the following locations under the auspices of the Crippled Children Section, Connecticut State Department of Health: *Stamford, Danbury, Torrington, Willimantic, Norwich, Derby, Putnam.* Physical and speech therapies (and in some areas occupational therapy) are provided by staff members of the Section on a weekly basis or oftener. The facilities used may be those of the local hospital, Visiting Nurse Association or health center. In some instances facilities have been especially established in the public schools.

Acknowledgment

The co-operation of the various listed agencies and facilities in supplying data has made compilation of this article possible. To all of them the author wishes to express grateful acknowledgement. Especial thanks are due to Miss Beatrice Bronson, of the State Department of Education; Miss Gertrude Norcross, Connecticut Society for Crippled Children and Adults, Inc.; Mrs. Irving Pinsky, United Cerebral Palsy Association of Waterbury, Inc.; Mr. Edmund McLaughlin, United Cerebral Palsy of Fairfield County, Inc.; and George L. Hamilton, M.D., Connecticut State Department of Health.

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HEMOGLOBIN SYNTHESIS WITH IRON CHOLINE CITRATE IN HYPOCHROMIC ANEMIA OF PREGNANCY

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Introduction

The adult pre-menopausal woman is often in a precarious balance with respect to iron stores because of such factors as inadequate diet, unsatisfactory iron absorption, excessive menstruation and frequently repeated pregnancies.[1]

The obvious therapy for iron deficiency anemia is iron, preferably given by the oral route and in a form which will provide maximum hemoglobin synthesis with a minimum of undesirable side effects, such as, symptoms of gastric distress that are particularly disturbing if they occur during pregnancy.

Although ferrous sulfate has long been a standard iron preparation used in the treatment of iron deficiency anemia, it does produce nausea and gastric upset in many patients. Recent studies provide some insight into the undesirable reactions that may result from elevated serum iron levels following iron therapy.[2]

Another, and much more serious factor is the accumulated reports of poisoning by ferrous sulfate and other iron salts, such as, ferrous and ferric chloride and ferric ammonium citrate.[3] The Committee on Toxicology of the American Medical Association has emphasized that—"physicians appreciate the potential toxicity of these compounds and warn patients to keep tablets out of the reach of children."

Iron choline citrate has been shown to have a low order of toxicity in experimental animals, produces significantly less symptoms of gastrointestinal distress in humans, yet is effective in hemoglobin synthesis in hypochromic anemia.[2]

The specific objects of this study were to evaluate the hematologic responses from iron choline citrate in a group of obstetric patients and note any side effects that might develop with its use.

Experimental

Iron choline citrate was administered by mouth to a group of anemic females encountered in routine office obstetrical gynecology practice for periods ranging from 1 to 4½ months. Each patient was given two tablets of iron choline citrate three times a day with no particular instructions regarding relationship to meals. This amount of medication supplied six gms. of iron choline citrate complex equivalent to 240 mg. of elemental iron and 720 mg. of choline base. Prior to therapy base line hemoglobin determinations were made by the method of Wong[4] using a photoelectric colorimeter. Hemoglobin standardization was such that 16 gm. per cent was the equivalent of 100 per cent hemoglobin. At the termination of each therapy period, hemoglobin determinations were repeated on each patient. During the period of iron choline citrate treatment, the patients received no other medication and, particularly, were advised not to take any calcium salts. The patients ranged in age from 19 to 42 years and all but three were pregnant during the period of study. Upon the completion of therapy each patient was questioned concerning gastrointestinal systems or any other manifestations of drug toxicity.

Results

All the patients were observed to have improvement in their hemoglobin concentration. A few of these responses were minimal, but it should be emphasized that none had a decline in hemoglobin level in spite of the progression of pregnancy. All of the patients tolerated the iron choline citrate well without complaining of gastrointestinal distress or other side effects. The results of these studies are summarized in Table I.

TABLE I
EFFECT OF IRON CHOLINE CITRATE ON HEMAGLOBIN SYNTHESIS

NO.	PATIENT	PREGNANCY STATUS	AGE YEARS	HGB. BEFORE RX GM.%	HGB. AFTER RX GM.%	DURATION OF RX
1	A.C.	14 wks.	26	11.3	12.0	2 mo. 3 wks.
2	E.McI.	Not pregnant	42	11.6	13.2	11 days
3	A.S.	Not pregnant	36	12.3	13.6	2 mo. 2 wks.
4	J.R.	16½ wks.	32	12.2	16.	1 mo.
5	F.C.	Not pregnant	35	11.9	15.6	2 mo.
6	J.D.	16½ wks.	25	12.2	14.6	3 mo.
7	C.D.	16½ wks.	19	10.7	12.8	3 mo. 3 wks.
8	C.M.	11 wks.	22	13.6	16.9	1 mo.
9	M.N.	20½ wks.	20	14.	16.	4 mo. 2 wks.
10	D.T.	13 wks.	30	14.8	17.9	3 mo. 3 wks.
11	A.B.	14 wks.	33	12.8	14.6	1 mo.
12	S.B.	8 wks.	23	12.2	13.8	1 mo.
13	C.B.	6 wks.	21	12.	13.2	1 mo.
14	M.D.	11 wks.	28	11.9	13.6	1 mo.
15	R.K.	18½ wks.	28	14.	14.8	1 mo.
16	D.Z.	19½ wks.	26	13.6	14.8	1 mo.
17	H.L.	12 wks.	23	12.4	14.0	1 mo.
18	E.G.	14 wks.	26	11.5	13.2	1 mo.
19	V.S.	16 wks.	31	12.2	14.0	1 mo.
20	D.P.	8 wks.	21	14.2	14.4	1 mo.
21	N.A.	6 wks.	19	10.4	13.6	1 mo.
22	F.O.	8 wks.	29	11.6	12.4	1 mo.

Several patients in this series experienced moderate to appreciable blood loss from vaginal bleeding either just before or during the period of the experiment. Therapy with iron choline citrate, maintained or slightly increased the hemoglobin levels despite the blood loss.

Discussion

In this group of unselected, routine office female patients, there appears to have been a satisfactory overall response to the administration of iron choline citrate. Consistent elevations of hemoglobin levels were obtained and none of these patients developed evidence of gastrointestinal irritation. It should be noted that a number of the patients in this study were in the second trimester of their pregnancies, a time when iron deficiency anemia often becomes more pronounced. In addition, during this period of time, the anemia is often accentuated by a physiological increase in plasma volume. In spite of these factors, correction of anemia was noted comparable to that obtained in this practice in the past with other products, and without the often seen troublesome side effects or, as great a potential hazard from accidental poisoning due to iron medications falling into the hands of children. The lack of gastrointestinal symptoms experienced in this study substantiates that of Franklin, et al., in an extensive clinical study of a somewhat different type.[2] In their series of 106 hospitalized patients receiving from 160-240 mg. of elemental iron per day as iron choline citrate, for a total of 1,195 treatment days, mild initial gastrointestinal distress occurred in only six patients and subsided on continued therapy. In a series of non-hospitalized patients receiving 120 mg. of elemental iron as iron choline citrate, as a single daily dose on an empty stomach, not a single case of constipation, diarrhea or gastrointestinal discomfort was observed in a total of 2,108 treatment days.

Summary

The oral administration of iron choline citrate to 22 patients seen in office practice with obstetrical and gynecology conditions was well tolerated. Hemoglobin responses were comparable to those which might have been expected with iron salts. This experiment suggests that iron choline citrate is an excellent form of iron therapy, is both well tolerated and effective in hemoglobin synthesis, and probably presents a much lower toxicity hazard for children who might take it by accident in more than therapeutic amounts.

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VACCINIA OF THE EYELIDS AND CORNEA—

Description of a Case with VIRUS ISOLATION

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Introduction

Since the introduction of vaccination by Jenner in 1798, many remedies have been advocated for the treatment of vaccinial infection when it involves the eye. This would indicate that none has been entirely satisfactory. Reports of accidental infections of the eye due to vaccinia virus are fairly uncommon in the literature considering the great number of vaccinations which are performed daily. Approximately 200 cases have been recorded in the last 50 years, and it is likely that many others have been unrecognized or unreported. Ocular involvement may concern the eyelid, conjuctiva or the cornea, with the cornea becoming involved in about 20 or 30 per cent of the cases. Such involvement frequently results in visual damage and may mean the total loss of an eye, and it is thus extremely important to prevent corneal involvement when the eyelids or conjunctiva become infected.

Duke-Elder[1] says corneal involvement may take one of three forms:

1. *Marginal infiltration* of the cornea which becomes vascularized and clears up.
2. *True vaccinial pustule* commencing after an incubation of one to five days with ulcer formation. This is a serious affair and follows a long and painful course.
3. *Disciform keratitis* which after a slow course may clear up entirely.

Report of a Case

A 55 year old white married female, L.V., was seen on June 6, 1955, by M.E.V. She complained of a painful right eye of eight days duration which she at first attributed to contamination following planting at a cemetery. When her eye started to swell, she was seen by her family practitioner who placed her on local cortisone. No improvement of the eye condition followed: in fact, the eye became worse. She complained of pain and a marked diminution in vision. When seen on June 6, examination of the eye showed the eyelids to be swollen and red. It was impossible to invert the upper lid. A mucoserous discharge, marked chemosis of the conjunctiva, and swelling over the lacrimal sac were noted. There was pre-auricular and submaxillary gland enlargement and two necrotic lesions on the lid margin of the upper lid were observed. Hand motion was the only vision that could be recorded. The cornea which was visualized with difficulty showed punctate infiltration. A partially successful attempt was made to irrigate the naso-lacrimal sac. The patient was placed on one per cent atropine, warm saline compresses, "neo-cortef" 1.5 per cent ophthalmic ointment,* and "polysporin" ointment.**

On June 8 no improvement was noted. The patient was admitted to the Hospital of St. Raphael, and on June 10 she gave the additional history that

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* "Neo-cortef," Upjohn Company: eye-ear ointment, 1.5% hydrocortisone acetate; 5 mg. Neomycin sulfate.

** "Polysporin," Burroughs Wellcome and Co.: Polymyxin B Sulfate 10,000 Units; Zinc Bacitracin 500 Units per gram in petrolatum base.

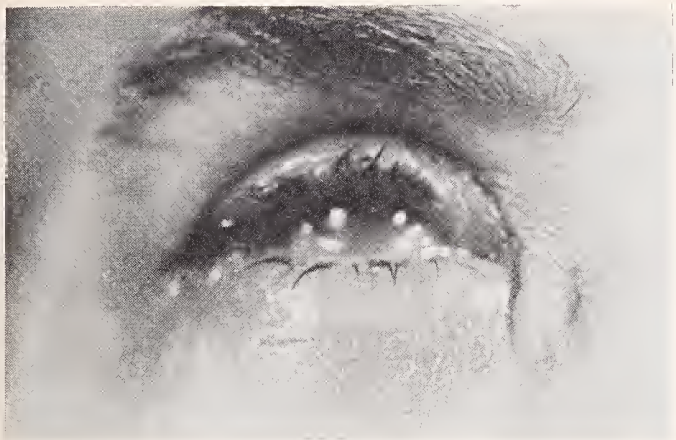

Figure I
Patient L.V. on June 10, 1955 twelve days after the onset of the first eye symptoms.

a granddaughter had recently been vaccinated. Thinking it was a pimple, the patient had "picked" at it and then touched her right eye with the same contaminated finger. The eye lesions as they were on June 10, can be seen in Fig. 1.

The patient herself had been vaccinated successfully at the age of five, following which she had a very severe local reaction. The patient denied any further vaccination.

Laboratory findings in the hospital were reported as being within normal limits and included a complete blood count, Hb., Hmct. and sedimentation rate; blood glucose and N.P.N. and urine analysis.

Eye cultures showed hemolytic Staphylococcus aureus, sensitive to penicillin and neomycin. Studies for fungi were reported negative. X-rays of the sinuses were reported negative.

The report on a biopsy of the necrotic area (gross description) read as follows: "Specimen received in fixative, consists of several minute fragments measuring approximately 0.1 cm. Microscopic diagnosis is necrotic tissue. N. B.: If this is vaccinia, it has progressed to the necrotic stage and the characteristic pathology is lost."

On June 10, 1955 the patient was discharged from the hospital. The chemosis and redness had subsided somewhat. The eyelids were still swollen. The pre-auricular and submaxillary glands were subsiding and the patient felt that she could see a little better. However, no definite vision could be recorded. On this day, specimens were collected for virus studies which were carried out in the Yale Diagnostic Laboratory, New Haven Hospital (M.G.M.) and in the Department of Microbiology and Biophysics (J.F.M.).

On June 11 a central corneal ulceration was noted. This measured two mm. in size and progressively became larger, increasing to about seven mm. three days later.

"Neo-cortef" ointment locally was stopped and terramycin ointment locally only was prescribed. On June 17 "Terra-cortril" locally was started.* On June 24 the corneal ulceration healed. Under the slit lamp the central portion of the cornea was thicker. The corneal stroma was swollen and showed a striate keratitis. At this time it was definitely known that virus studies for vaccinia were positive.

Vision was 20/100 with correction in the involved eye.

On August 11, 1955 the patient was seen by R. M. F. at which time her vision in the right eye was 20/200 with correction and in the left eye 20/20. In the right eye especially, the upper eyelid was swollen and the cornea showed central diffuse infiltration. There was no staining and the pupil was small. Finger tension was normal.

At this time the patient was placed on homatropine two per cent, one drop into the right eye TID, saline compresses, ascorbic acid, 50 mg. systematically TID (supplemented with natural sources of vitamin C such as green peppers, fresh lemons), terramycin 250 mgs. systematically TID with meals, and locally "terra-cortril" drops.

On August 25, 1955 there was definite subjective and objective improvement. Vision in the right eye could now be recorded as 20/100 with correction, and with pin hole could be improved to 20/30. Central corneal infiltration was noted to be less and seemed to involve chiefly the upper layers of the cornea. Terramycin, systemically only, was used for seven days and then discontinued. The local "terra-cortril," ascorbic acid, and homatropine were continued.

By September 29, 1955 all eye pain had subsided. Vision in the involved eye, even though under the influence of homatropine, was 20/50 with correction. It could be improved with pin hole to 20/25. Only a superficial central corneal scar could be noted.

When last seen on 3/18/58 the patient had vision of 20/20 in each eye with correction. There was a small superficial scar. The patient was asked to return in one year.

Clinical Discussion

Atkinson and Scullard[2] recommended that the following measures be employed if the eyelids become infected with vaccinia:

1. Avoid trauma which might cause inoculation of the cornea, taking particular care in opening the swollen lids.

2. In young children, cuffs should be used on the arms to prevent rubbing the eye with the fingers.

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* "Terra-Cortril" eye suspension, Pfizer Laboratories: Oxytetracycline hydrochloride 5 mg. and Hydrocortisone 15 mg. per cc.

3. Oxidizing agents such as potassium permanganate, and ascorbic acid should be used. The potassium permanganate one to 100,000 applied in the form of compresses, should be made fresh daily. Solutions of ascorbic acid may be dropped in the conjunctival cul-de-sac, and ascorbic acid 50 mg. BID by mouth should be given.

4. Antivaccinial serum, if available, may be applied locally or the general immunity may be increased by injection.[3]

More recent clinical studies suggest antibiotics locally and systemically as the best form of therapy. King and Robie[4] used aureomycin orally, 250 mgm. every eight hours, and aureomycin borate eye drops QID, as their main therapy. Frampton and Smith[5] used chloramphenicol orally. 1 gm. every eight hours and chloramphenicol eye drops five mgm. per ml. every three hours. We substituted terramycin 250 mgm. orally TID and "terra-cortril" eye drops locally every two hours.

Kline[6] felt, as did Pitman, Holt, and Harrell,[7] that the main credit could be given in their cases to X-ray. Kline gave three treatments on successive days of 50 r. each (total of 150 r.) Pitman and his group[7,8] gave a total of 286 r. over four days in divided dosage.

Potassium permanganate and ascorbic acid, as oxidizing agents, have been reported to inactivate vaccinia virus.[2] Chloramphenicol,[5] aureomycin,[9] and terramycin are antibiotics that supposedly inactivate the virus. Chloramphenicol was chosen because it has a greater intraocular penetration, when administered systematically, than any other available antibiotic, and for this reason many feel it to be the antibiotic of choice if used continuously. McLean and others[10] found that chloramphenicol has no effect on vaccinia virus cultivated on the chick embryo.

X-ray is to be used with the greatest caution around the eye. It is felt by some that X-ray may act by diminishing the rate of spread of the virus through the tissues, for it is known that it does not act by killing the virus at the dose level used around the eyes. It has been shown experimentally that roentgen irradiation *in vitro* will reduce the infectivity of vaccinial lymph,[11] but the dosage required is extremely high and would not be tolerated by the eye.

Although in experimental infections, cortisone in general has a stimulating effect on vaccinia virus,[12] Sudarsky, in his report[13] on a disciform type of human keratitis as a complication of vaccinia, states that cortisone treatment appeared to benefit two patients with recurrence of this keratitis. The use of steroid hormones in the treatment of post-infectious viral corneal diseases raises much discussion among ophthalmologists. Many feel the steroids are contra-indicated even in late corneal sequelae of virus infections. When other methods failed, however, steroid hormones have been used on an empirical basis with good results.

Moffatt[3] described a case of vaccinia of the conjunctival sac treated with vaccinia-immune serum, and suggested there was "prima facie evidence of benefit obtained from the use of immune serum."

We are extremely cautious in feeling that the beneficial and dramatic effects in our case were due to any one drug. Local terramycin alone had not been effective. Local cortisone alone aggravated the condition. Cortisone administered systematically plus local cortisone-antibiotic preparations were at best only partially effective. It is probable in this case that the improvement was attributable to the action of the terramycin on the secondary infection and not on the vaccinia virus directly, or it might have been due to the development of immunity and to the normal healing of the vaccinial lesion.

Virus Studies

Collection of Specimens. An eye swab was obtained from the patient on 6/10/55, 12 days after the onset of the first eye symptoms, or 14 days after the patient inoculated her eye accidently by rubbing it with infective material picked up from her grandchild's vaccination site. This swab was collected by rubbing the eye lesions of the patient with a sterile cotton applicator and placing it in saline. An acute phase blood sample was also obtained on 6/10/55 and the convalescent phase samples were drawn 12½ weeks (8/25/55) and 16 months (9/17/56) respectively after the onset of eye symptoms.

Isolation of the Virus

a) *Monkey kidney tissue culture* tubes were inoculated with 0.1 ml. of the eye swab material following methods which have been fully presented elsewhere.[14,15] Cytopathogenic changes in tissue culture were noticeable on the fourth day, and by the eighth day a 4^+ degree of degeneration was obtained, manifested by complete separation of rounded cells. Detailed observations of the behaviour of this LV strain in monkey kidney tissue culture are described elsewhere.[16] The infectivity titer of the third tissue culture material was $10^{-5}TCD_{50}$ (50 per cent infectivity endpoint in tissue culture) calculated by the Reed and Muench method.[17]

b) *Suckling mice* of the White Swiss variety and less than 24 hours old were inoculated intracerebrally with 0.03 ml. of the eye swab material after antibiotic treatment. Six of the 10 mice died, the first one on the sixth day and the last on the 14th day after inoculation. The sick mice manifested tremors, ataxia and incoordination, but no paralysis. Brain and torso material were harvested from a sick mouse, made into a 20 per cent saline suspension and inoculated in 0.3 ml. amount into monkey kidney tissue culture tubes. After six days, a definite cytopathogenic effect was noticed in these tubes and the TCD_{50} was $10^{-4.3}$ in tissue culture.

Identification of the Virus

a) *Tissue culture neutralization tests* were performed using rabbit immune vaccinia sera in the presence of the patient's virus and of other standard laboratory strains of vaccinia virus.*

It was difficult to demonstrate neutralization of the virus using our routine tissue culture neutralization techniques.[18] However, in one test, tenfold dilutions of the supernatant tissue culture fluid of the patient's virus were mixed with 1/5 dilution of immune vaccinia rabbit serum, and were kept overnight in the icebox before inoculation into tissue culture tubes; a reduction of 1 log. in the cytopathogenic effect of the virus was observed after this procedure.

b) *The chorioallantoic membranes* of 12-day old chick embryos were inoculated with supernatant fluids from tissue culture material and showed excellent clear-cut lesions in the first and subsequent passages. The lesions strongly resembled those of dermo-vaccinia maintained by serial passage in chick embryos. The infectivity titer in eggs of the third egg passage material was 10^{-5}. Exposure to vaccinia immune rabbit serum reduced the ID 50 of the chorioallantoic passage material by exactly two logs as compared to the controls.

A suspension of chorioallantoic membranes from the first *in ovo* passage of tissue-culture fluid yielded high-titer hemagglutinins which reacted with known vaccinia-sensitive chicken erythrocytes, but not with vaccinia insensitive erythrocytes. The hemagglutinin titer did not increase with further passages on the chorioallantois. No hemagglutinins were detected when the supernatant fluid from monkey kidney tissue culture was tested directly. These findings are discussed elsewhere.[16]

c) In a *hemagglutination-inhibition test,* virus from the first chorioallantoic passage was diluted to contain exactly 10 hemagglutinating units per standard volume (0.2 ml.); it showed complete neutralization by antiserum dilutions from 1:10-1:800, and gave the end-point at 1:1,200.

d) Typical vaccinial lesions developed in the *rabbit skin* three-four days after inoculation with infective supernatant tissue culture fluid. When approximately 100 ID_{50} of isolated virus (second chorioallantoic passage) were added to serial dilutions of rabbit vaccinia antiserum, neutralization was shown in the rabbit skin to a serum dilution of 1:100.

Study of the Patient's Antibodies

a) Determination of neutralizing antibodies for vaccinia virus were performed in *monkey kidney tissue culture tubes,* using serial dilutions of the patient's acute and first convalescent sera collected respectively 12 days and 12½ weeks after the onset of her eye symptoms. The patient's own virus was used in these tests in a dose of approximately 100 TCD_{50}. The neutralization test failed to show any detectable antibodies even in the 1:4 initial dilution of the patient's sera. The test was repeated with negative results.

b) Neutralization tests were also performed in *eggs.* A 1:5 dilution of the patient's acute and convalescent sera was mixed with tenfold serial dilutions of the patient's virus and known vaccinia virus. These mixtures were inoculated on the chorioallantoic membranes of chick embryos. Results are expressed in neutralization indexes (log ID_{50} control minus log ID_{50} test serum) and recorded in Table 1.

TABLE I
NEUTRALIZATION TEST WITH THE PATIENT'S SERA

SERA	VACCINIA VIRUS*	PATIENT'S VIRUS
1. (6/10/55)	0.5†	1.3
2. (8/25/55)	0.6	NT
3. (9/17/56)	1.1	2.1

* Levaditi strain.
† Neutralization index.
NT—Not tested.

The patient's sera thus demonstrated significant neutralization of the isolated virus and also of a standard vaccinia virus strain, the highest indexes occurring in serum collected 16 months after onset of eye symptoms (9/17/56), when tested against the patient's own virus.

c) No *anti-hemagglutinins* were demonstrable in the patient's acute or convalescent sera.

Discussion of the Virus Laboratory Findings

It is of interest, both to the clinician and to the virologist, to be able to establish or confirm with certainty, and without delay, the nature of a patient's infection.[19] In this case, as in most cases of vaccinial infections of the eye, the history itself of accidental contact with vaccinia virus would make the diagnosis rather obvious. However, there are other instances of vaccinial infection in which the diagnosis may not be so evident, or would have to be differentiated from other types of infection, such as herpes simplex.

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* Vaccinia virus of the Levaditi and dermo strains which had received at least 30 consecutive chorioallantoic passages, and a dermo strain in approximately the fiftieth passage in Maitland-type suspended chick embryo cell culture.

The ease with which a strain of vaccinia virus was isolated in monkey kidney tissue culture and in suckling mice was rewarding. The neutralization of the virus in eggs, rabbits and tissue culture, and the demonstration of its specific hemagglutinin after a single passage of the infected tissue culture material on the chorioallantois, identified the agent without doubt as vaccinia virus. Further studies on the vaccinia strain isolated from the patient L. V. are described elsewhere.[16]

The difficulty of demonstrating in monkey kidney tissue culture neutralizing antibodies in the patient's sera was an unexpected finding, although Cramblett et al[20] were also unsuccessful in this regard with a similar case. It was therefore helpful to perform a neutralization test in eggs to demonstrate a significant titer of neutralizing antibodies against vaccinia virus in the patient's sera.

Summary

Vaccinia of the eyelids, although not a rare condition, is uncommon and may cause serious ocular complications. A case is reported in which vaccinia virus was isolated from the eye directly in monkey kidney tissue culture and in suckling mice. The patient recovered with normal vision in spite of severe lesions involving the cornea and eyelids. An outline of the treatment with the rationale is given.

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Editorials

Erythropoietin—An Exercise in the Scientific Method

Is there a mechanism that regulates red blood cell production? Such a question was almost inevitable to one who was searching for an answer to the question "what causes erythropoiesis?" In any area of physiology that we turn to, we see servomechanisms with their own feed-back controls. These are found in the operation of the nervous system as well as in endocrine regulation. A rise in blood sugar stimulates insulin secretion, a drop in blood sugar brings insulin secretion to a halt. This illustrates how an endocrine secretion is regulated by a humoral agent. Similar ones exist for regulating thyroid, adrenal, gonadal and other functions. A rise in arterial pressure leads to peripheral vasodilation and cardiac slowing. This is one example of a large number of operations automatically regulated by the nervous system. It is therefore not surprising that regulation of red cell production should be suspected as depending upon either a nervous or humoral mechanism.

The scientific attitude searches for some order in facts which are only superficially isolated. A "significant question" occurs to a student after he has made or become aware of observations which call for an explanation. What were the observations that made the need felt to explain the factor or factors responsible for red blood cell production? One was that during anemia there is also an increase in red cell production, as observed in a hyperplastic bone marrow. A second was that in hypoxia there is a similar increase as exemplified in the polycythemia of high altitudes or in chronic lung disease. However, the hypoxia does not need to be general. Regional hypoxia as is found in some cases of patent ductus arteriosus, produces erythroblastic hyperplasia in the non-hypoxic as well as the hypoxic bone marrow. If there is a stimulant for erythropoiesis it must be in the plasma since all bone marrow is stimulated not just the hypoxic bone marrow. The stage is thus set for a generalization: "Red cell production is caused by a humoral factor." Such a generalization opens the field to experimental verification. If a humoral factor is present then in parabionts, there should be increased erythropoiesis in both animals when only one is subjected to low O_2 tension.[2,9] This was in fact found to be the case. Furthermore, if there is a humoral factor then it should be possible to isolate it from plasma of animals and man in whom anemia or hypoxia leads to increased erythropoiesis. This was in fact accomplished by Gurney et al.[2,3] If red blood cell production is regulated by plasma levels of a humoral factor, now called erythropoietin, it must have a source probably somewhere in the body.

Any organ could be suspected but if a painstaking systematic search were undertaken, it would involve seeking evidence for erythropoietin where one organ after another was removed. Fortunately observations in the clinic pointed significantly to the kidney. Here again "significant observations" led to a generalization and later to experimental verification. In anemia of renal origin there is no increase of red cell production in the bone marrow which remains singularly inactive.[10] This in spite of the fact that anemia, which ordinarily leads to increased amounts of erythropoietin in the plasma, does not do so in renal anemia. Apparently the kidney is needed for erythropoietin production. Thus the kidney became implicated.[4,5] The converse namely, polycythemia with an active marrow was found in certain renal tumors. In such cases increased amounts of erythropoietin was found. A generalization was now inevitable that the kidney is the source of erythropoietin. If this is so then the tumor of the kidney should contain sizeable quantities of erythropoietin and this was demonstrated by Hewlett.[6] What was even more striking was that the erythropoietin, in the plasma of patients with renal tumors, disappears after the tumor was removed. Another inference justifiable by the hypothesis that the kidney produces erythropoietin in increased quantities during anemia or hypoxia, is that isolated kidneys rendered hypoxic should show increased amounts of the red blood cell stimulating factor in the perfusate. This experiment was successfully performed by Kuratowska et al.[7] This last finding lends strong support to the hypothesis that erythropoietin is actually manufactured by the kidney and not simply stored there after being produced elsewhere in the body.

If erythropoietin is manufactured in the kidney, is this organ the sole source for the hormone? Although the kidney is the major area of production apparently it is not the only one. A case of cerebellar hemangioblastoma has recently been reported to contain increased amounts of erythropoietin.[8] in the plasma and it has been found in cystic fluid of a polycystic kidney of a patient with polycythemia.[6]

When one discovers a connection between isolated facts, in virtue of this connection, the apparently isolated facts turn out to have an order among themselves and as we have seen above, the function of a hypothesis is to direct the search for an order among the facts which appear isolated though only superficially.

A hypothesis should account not only for what we already know but should be formulated in such a way as to be able to predict observations and propositions that would not be known or even suspected before the prediction is made. This is as true for erythropoietin as for other discoveries in science. Does erythropoietin maintain the dynamic equilibrium of erythropoiesis? Is erythrocytosis an early sign of renal malignancy? Is erythropoietin production high in cases like aplastic anemia in which the bone marrow cannot use it? If one brings the blood of an anemic patient back to normal by transfusion does erythropoietin production come to a halt?[1] If an anemic patient does not respond to a high erythropoietic titre what besides renal disease can be responsible? Will anemia of renal disease respond to erythropoietin and will this be advantageous to renal function? Is polycythemia vera due to increased erythropoietin activity and therefore a renal disease? These and many other questions logically followed as the field continued to unfold.

The above exercise in the scientific method makes clear how an explanation in science is fruitful in extending our understanding over a wide range of clinical phenomena first existing as isolated and apparently unconnected facts. We cannot take a single step forward until we begin with a suggested explanation of the problem which originated it. The formulation of a hypothesis makes it possible to search for and establish an order among the facts. The hypotheses mentioned above were so formulated that inferences or deductions could be made from them so that the investigators were able to arrive at a decision as to whether the hypothesis actually explained the facts under consideration. But they did more. They not only accounted for what was already known but permitted predictions of certain new observations which would be true but were not known or even suspected before. Thus the scientific method operates to give man mastery over a specific segment of our world.

L. H. N.

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The Curse of Jealousy

"Jealousy is cruel as the grave."
—The Song of Solomon, VIII, 6.

Not many months ago many of us who are readers of the daily press were shocked and horrified by the story of an insanely jealous mother-in-law who had hired assassins to kill her pregnant daughter-in-law. This action was the result of a degree of jealousy seldom encountered though, as no two human beings act exactly alike, it is always possible that similar incidents may be reported from time to time. It seems that some mothers, normally of course entitled to the filial love of their sons, are possessed of the idea that even after when these sons marry, they are still entitled to be the chief recipients of their affection, quite failing to realize that the quality of affection which a husband should bestow on his wife and his own family is naturally different, and we think fair to say, more intense than maternal love.

The possible extent of a mother's warped conception is presented in its most intense form in the preceding paragraph, but it is important to realize that there are many less virulent forms of jealousy which are still capable of causing serious difficulties to the smooth running of the life of a family. In many such cases the jealousy is due to the marriage of a son to a woman whom the mother-in-law dislikes. She may indeed have reasons other than jealousy for this feeling, but her jealousy may cause her to demand special attention from her son when he and her daughter-in-law are visiting her family such as insisting that her son always sit next to her on a lounge during conversational periods so that she can continually hold his hand. A jealous mother may spread false rumors anent her daughter-in-law among mutual acquaintances, and even send lying reports of his wife's behavior to her son's place of business. If he is completely dominated by his mother he may not divulge the contents of these notes to his wife. Where there are children in her son's family his mother may play favorites, praising some of the children and treating others with disapproval and contempt.

It is to be noted that the preceding paragraphs stress the fact that the evidences of jealousy usually concern the family relations of a son of a jealous person rather than a daughter or the husband of a daughter. Needless to say all such sons do not react alike. Some openly defy the maternal actions, others are so dominated by the maternal influence and so lacking in ability to resist that the happiness of their family is seriously impaired. Even such sons may, on vacations distant from the jealous mother, act much more normally. The situation may also be helped by ministers who choose to act as *family advisers* or by psychiatric practitioners. Permanent removal to locations far distant to jealous relatives may also result in satisfactory adjustments of the stricken family. Such situations as are described, due to jealousy, may therefore at times be remediable.

G. B.

Closed Heart Cardiac Massage

Cardiac standstill once it occurs whether because of vagal arrest or ventricular fibrillation, is the death-knell unless the circulation is promptly restored, for otherwise anoxia will result in irreversible damage. The general method heretofore employed has been the open chest method with massage of the heart directly. For obvious reasons such heroic measures find their way into the newspapers but is one considered hesitantly by the physician in charge. By the time appropriate measures have been taken many minutes must pass and it is well known that even a few minutes are sufficient to prevent effective defibrillation after the onset of ventricular fibrillation.

It is clear that a method is needed that would provide adequate circulation to maintain the tone of the heart and the nourishment of the central nervous system that does not require the opening of the chest, that would be at once readily applicable, safe to use, and require but a minimum of gadgets.

It is interesting that such a method has been known since 1878 when Boehm[1] working with cats, applied rhythmic pressure to their chests at the area of greatest expansion and succeeded in enhancing the circulation even though the heart was arrested. Since then many others have shown the same thing. A few years ago Gurvich and Yuniev[2] have shown that a heart in ventricular fibrillation could be resuscitated as long as eight minutes after onset if they applied rhythmic pressure in the region of the thorax. Without closed heart cardiac massage, the heart could not be resuscitated by capacitor discharge as little as 1½ minutes after the onset of ventricular fibrillation. In other words closed heart cardiac massage maintained the circulation and prevented anoxia which is the limiting factor in resuscitation.

Kouwenhoven et al[3] have just published an important paper confirming these observations and explaining in detail the method to be employed. The patient is placed on his back and the operator places one hand on the sternum above the ensiform and his other hand over the first one. Every second the sternum is pushed downward 3-4 centimeters and then released. Blood flow, pressures and the electrocardiogram of the dog were recorded and showed clearly that the maneuver is capable of maintaining a circulation adequate to prevent anoxia of the heart and brain. The application of the method was shown to be eminently successful. During massage blood pressure ranged from 60 to 100 mm. Hg. In three of the 20 patients treated the hearts were in ventricular fibrillation and all were defibrillated and resuscitated. The authors suggest when possible that artificial respiration, mouth to mouth be also maintained. For this an assistant to the operator is necessary.

It turns out that the human chest is particularly favored to make massage effective. The chest is rarely too rigid to prevent depression of the sternum for four centimeters and the heart being placed between the sternum and spine will be massaged by such compression.

The real value of the method lies in the fact that it can be used wherever the emergency arises, either in or out of the Hospital, and that necessity for thoracotomy is thereby eliminated. It not only eliminates thoracotomy, but in contrast with thoracotomy it can be undertaken immediately on discovery.

L. H. N.

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By Their Bootstraps

The history of the solution of social problems, such as problem-drinking, does not seem replete with examples where individuals have lifted themselves out of trouble by their own bootstraps, so to speak. Alcoholics Anonymous consists of people who have done this. Their first step toward sobriety has been to recognize their inability to stop drinking without help, then to get that help by banding together with other problem-drinkers pledged to help each other stay sober one day at a time. The story of the birth, growth and fruition of A.A. is both interesting and instructive and will be briefly summarized.

This fast-growing movement, known generally as A.A., has reached phenomenal proportions in 25 years. There are now 8,000 local "groups" in 5,760 communities in more than 80 countries. The movement began 25 years ago when a businessman, a problem-drinker who had succeeded in remaining sober, failed to put over a big business deal in a strange city. In his desperation to control the almost overpowering impulse to drown his disappointment in alcohol, he sought help and, through a minister, contacted a local alcoholic. This one was a local surgeon who had almost destroyed his fine reputation by his problem-drinking. Together, they got the visitor over his immediate "hump."

This incident convinced these two men that a good way, perhaps the best way, to help alcoholics stop drinking would be to share their experiences with others who want to stay sober yet cannot do it without help.

After a third alcoholic joined them and succeeded, with their assistance, the great project of helping others to stay sober was on its way. Soon, it seemed, a sort of chain-reaction developed. Chapters, or groups as they prefer to call themselves, were formed here and there until the present world-wide organization has evolved. The rapid growth and spread of Alcoholics Anonymous is the best testimony to the success of the movement.

There are many unusual features about A.A. Aside from a central world-service office supported by contributions from groups and from the sale of A.A. literature, there are no officers. At the local level, a steering committee manages such details as places of meetings, dates, program, and finances. No one individual can speak for the organization. They accept no contributions from outside sources, and have no direct connection with any other organization. They have avoided accumulation of property beyond prudent financial reserves for carrying on their program. And, of course, they honor their pledge of anonymity for the individual.

The results achieved by this unusual association and their methods of helping other problem-drinkers have received the approval of physicians, ministers of the Gospel, and of the public in general. Alcoholism is being accepted as a disease rather than a wilful misdemeanor, and much of its social stigma is gradually vanishing. The American Public Health Association, in 1951, announced the Lasker Group Award to Alcoholics Anonymous "in recognition of its unique and highly successful approach to that age-old public health and social problem, alcoholism."

Reprinted from the editorial page of the Nebraska Medical Journal, *45:291-292, 1960, with permission of the editor.*

Eye's Sensitivity To Glare Increases After 40

The effect of glare on vision increases sharply after the age of 40, according to an article in the current Archives of Ophthalmology, published by the American Medical Association.

Ernst Wolf, Ph.D., Boston, reported on a study of glare and age in more than 200 persons ranging from five to 85 years old.

The visibility of objects is reduced in the presence of glare, particularly in the vicinity of a blinding glare source, he said. To overcome the loss in visibility the contrast between figure and ground must be enhanced, or the size of the object seen must be increased, he said.

In his study, the illumination of the object was increased.

"This increase necessary for the recognition of the targets becomes progressively greater as age increases," Dr. Wolf reported.

"Comparing individuals in the age range between five and 15 years with those in the range between 75 and 85 years, a 50 to 70 fold increase in target screen luminance is necessary for the latter group as compared with the former.

"At the age of 40 years a sudden acceleration in sensitivity to glare occurs."

Since glare varies with age, he said, it is apparent that the phenomenon occurs within the eye. Studies suggest that the increased opacity of the lens which develops with advancing age and the resulting scatter of light within the eye "is primarily responsible for the phenomenon of glare," he said.

THE PRESIDENT'S PAGE

The closing of the polls ends one type of campaigning and starts another. Before, the campaigners were the candidates and their supporters. Now, the winners become the targets of increasingly heavy barrages from individuals and groups vigorously campaigning for action along all sorts of lines.

It appears certain that the campaigners for increased federal intervention in medical care will press for resurrection in the 87th Congress of various Forand-type proposals similar to those defeated in the 86th Congress. They may be aided and abetted by some states which neglect their responsibilities under the law signed September 13, 1960 offering federal matching funds to the states to help finance health care for the aged whose incomes and resources, as determined by each state, are not sufficient to meet the costs of necessary medical services. Because administration of the program rests entirely with the states, inaction or faulty action by the states could nullify the new law. Such nullification, whether deliberate or not, would be welcomed by the advocates of compulsory federal schemes of medical care.

To aid not only the needy but the near-needy in meeting medical care costs, Title VI of the new law (86-778) provides for the use of federal funds but with each state retaining control of the administration of its program. Each state can determine which of its citizens need help and what benefits are to be made available. This method follows our country's traditional federal-state organizational pattern. In contrast with Forand-type schemes, it does not compel the non-needy to accept federal medicine. It permits the non-needy to pay or prepay for medical care voluntarily. Furthermore, it gives each state legislature the opportunity to develop for those of its citizens who need help a program based on insurance principles.

The 1961 Connecticut legislative session is now in the planning stage. Now is the time to obtain as much information as possible on the new law, to form positive ideas as to the best methods of implementing it in Connecticut, and to make your views known to members of the Connecticut Legislature and other influential persons.

When President Eisenhower signed the new law on September 13, our Society already had established a committee to cooperate in the development of a program for Connecticut. On September 14 Dr. Feeney, chairman of this committee, invited to a September 27 conference several representatives of state health organizations, medical and hospital service corporations and insurance companies. Two days after the conference, Governor Ribicoff graciously received the Council Chairman, the Society President and Dr. Feeney to learn about the Feeney Committee.

The Feeney Committee has been hard at work for two months. It can assist you to formulate positive ideas about the best approaches to help those who need help in Connecticut. Talk to members of the committee. Formulate your ideas. Then make your views known to state legislators and others.

John N. Gallivan, M.D.

FROM THE GENERAL MANAGER'S OFFICE

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James G. Burch
Director of Public Relations

Josephine P. Lindquist
Assistant to General Manager

CALL
SEMI-ANNUAL MEETING OF HOUSE OF DELEGATES

The 1960 Semi-Annual Meeting of the House of Delegates will be held in the Hunt Memorial Building, 230 Scarborough Street, Hartford, on Tuesday, December 6th, commencing at 2:30 in the afternoon.

John N. Gallivan, President
Orvan W. Hess, Secretary
William R. Richards, General Manager

THE CLOSED PANEL

When we are asked to consider the virtues of "closed panel" systems of health care, we are often at a loss to define what there really is to object to in these plans which depart from traditional medical practice. Perhaps the information which follows sheds some light on this matter–information provided directly or indirectly by proponents of such schemes.

From the "U.M.W.A. Welfare and Retirement Fund," Report for the Year Ending June 30, 1960: "In conformity with regulations of the Trustees, these (health) services are made available . . . through the Medical, Health and Hospital Service. This professional Service under the administration of the Fund's Executive Medical Officer . . . *has full and final decision over the physicians and hospitals* [italics ours] for whose necessary and essential services Trust Fund payments will be made."

From "Detroit Medical News," October 10, 1960, Vol. LII, No. 22, Editor's Page.

FREEDOM OF CHOICE*

We wish to express our sympathy and extend our best wishes for a speedy recovery to Walter Reuther and Emil Mazey who are confined to hospitals.*

Mr. Reuther, in addition to his job as President of the U.A.W., is president of the C.H.A., a union medical and hospital project organized by Mr. Reuther. Mr. Mazey, in addition to his job as Secretary-Treasurer of the U.A.W., is a director on the board of C.H.A. This board presently supplies a staff of doctors and operates the Metropolitan Hospital in Detroit to provide a closed panel type of medical care for the members of the U.A.W.

When the C.H.A. recently announced its extended plans of operation in competition with Michigan Hospital and Medical Service plans, doctors were concerned for the ethics of medical practice. It was feared that union management might adopt methods of coersion and compulsion which would destroy the finest qualities in present day medical care. When people are ill their total security is in the balance and they want treatment in which they have confidence. This gracious propaganda about all medical service being the best goes out the window, and each man insists upon choosing that source of treatment which he really believes to be the best. We indorse without reservation the inherent and fundamental right of every man to make this choice. The control of medicine by lay boards is abhorrent to most physicians and has proven disastrous for the public.

It is, therefore, with considerable relief that we note that C.H.A. has no such coersive policy in regard to medical care, for both the President and a prominent Director have established their principle not only of free choice of physician, but also of free choice of hospital and medical care insurance coverage.

Mr. Reuther is in the Henry Ford Hospital for the treatment of a throat condition. Mr. Mazey is in the University Hospital at Ann Arbor for surgery on the kidney. Since Mr. Reuther and Mr. Mazey did not choose to use their own hospital or their own medical service, they cannot with honor deny this essential freedom to the members of their organizations. We salute both these gentlemen for their observance and preservation of a great ethical and humanitarian principle in the practice of medicine.

* *Detroit News 9/23/60.*

By D. W. McLean, M.D. Reprinted from the editorial page of the Detroit Medical News, *Oct. 10, 1960, with permission of the author and of the editor.*

The Society's Placement Service is in receipt of the following:

PLACEMENT WANTED

Joseph Dortch, M.D., Age 36, M.D. Temple University School of Medicine 1948—Specialty Obs-Gyn. Solo or associate practice.

ANYONE KNOWING OF AN OPENING FOR THIS PHYSICIAN IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

New Members

Fairfield County

Alexander Berger, Bridgeport
Charles A. Cohen, Newtown
Joan M. Foytho, Bridgeport
Robert S. Grossman, Newtown
John H. Harness, Stamford
Edmund F. Hecklau, Greenwich
Nilo E. Herrara, Danbury
Henri Janian, Stamford
Ali M. Kenter, Danbury
Vincent J. Morrissey, Redding Ridge
Melvin D. Orlins, Norwalk
Edward L. Pendagast, Jr., Bridgpeort
Walter S. Ridgway, Stamford
Charalambos D. Souvlis, Bridgeport
Leon Tec, Westport
Artin Telfeian, Stamford
Abraham Walzer, Bridgeport
Harvey R. Wasserman, Westport

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Albin S. Anderson, Hartford
Marion F. Baxter, West Hartford
Philip A. Becker, Hartford
Bradford M. Blanchard, Hartford
Wilford Bloomberg, Hartford
Donald L. Brown, Hartford
John T. Conroy, Hartford
Paul A. Cooper, Hartford
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Joseph J. Formica, New Britain
Leonard R. Frank, Bristol
Arnold Goldenberg, Hartford
Henry M. Greenleaf, Hartford
Robert E. Hamlisch, New Britain
John D. Haugh, Hartford
Charles C. Hewitt, Hartford
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John J. Hoban, Hartford
Jerome H. Hopper, Hartford
Edward L. Howes, Hartford
Jayson Hyun, Hartford
William P. Keefe, Hartford
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Stanley J. Noniewicz, Bristol
Sister Michael M. O'Brien, West Hartford
Luke E. O'Connor, East Hartford
John A. Pierce, Hartford
William A. Schear, Hartford
David H. Schuman, Hartford
Harold F. Scully, Jr., Hartford
Michael H. Sheard, Hartford
Morton H. Silberstein, New Haven
Douglas H. Smith, Manchester
Patrick F. Swan, Wapping
Kenneth H. White, Hartford
Thomas E. Winters, Bristol
Gerald Zimmerman, Hartford

New London County

Robert L. Lombardo, Groton
Philip B. Wade, New London

Oral Polio Vaccine

The announcement that the U. S. Public Health Service will permit the production of live poliovirus vaccine using the Sabin strains as soon as manufacturers are able to meet certain rigid safety requirements should not be allowed to discourage the present use of killed-virus vaccine. The government does not expect substantial quantities of the live-virus oral vaccine to be available before the spring or summer of 1961 at the earliest. Furthermore, not all problems relating to the use of the live virus vaccine have yet been resolved. The long delay in the decision to permit general use of live-virus vaccines resulted chiefly from the fear that the attenuated viruses would regain full virulence with passage through man. However, the Sabin vaccine, one of the three live-virus vaccines tested, is not known to have caused any illness. The risk of reversion is diminished when the vaccine is administered to entire communities within a short period, as has been done in most of the mass trials.

Blocking effect—There can be little doubt that when infection by the live attenuated polioviruses occurs, a high degree of immunity is induced; but occasionally, the interfering effect of pre-existing infections caused by other enteric viruses blocks the immunizing poliovirus infection. Furthermore, when the three virus types are administered in a single dose, there may be a similar blocking action, and infection by only one or two types rather than all three may occur. In one Mexican trial in an area where infection with intestinal viruses was endemic, however, two doses of the combined Sabin vaccine produced immunity to all three types of poliovirus in 70 to 90 per cent of the subjects. Nevertheless, immunity to all three types can be obtained more uniformly if, in place of a combined vaccine, each type is given separately with an interval between doses (A. B. Sabin, *AMA Arch. Int. Med., 106:*5, 1960; H. Koprowski, *British Med. J.,* July 9, 1960, p. 85). It is apparent that the optimal composition of the vaccine and the best mode of administering it have yet to be determined.

Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.

Special Article

A Quantitative Investigation of Clinical Speech And Hearing Facilities in Connecticut

David Pitt Barron, M.A.
Southbury

The need for an overall picture of the existing speech and hearing facilities in the State of Connecticut which might be used for referral of cases has prompted the author to begin an investigation into the number and location of part-time and full-time programs.

An initial questionnaire was sent out to 28 agencies, known to the author, which offered speech and hearing services. The questionnaires were returned by all agencies. The replies furnished information that was quantitative and authoritative in the description of their programs in terms of: (1) full-time or part-time; (2) program type (whether clinical or classroom); (3) staff size; (4) type of agency (whether hospital, university, institution, or incorporated organization); (5) method of obtaining support from psychology and otolaryngology; (6) availability of out-patient services; (7) extent of private work being offered; (8) listing of audiometric services offered; (9) auxiliary services (such as speech reading, hearing aid evaluations, auditory training, etc.); and, (10) method of speech therapy (whether individual or group).

Elaboration of this information was made possible by reference to Sortini's[1] directory, Diagnostic Centers and Educational Facilities for Hearing Handicapped Children in New England. Professional membership lists and employment bulletins issued by the American Speech and Hearing Association[2] and the National Society for Crippled Children and Adults,[3] plus personal correspondence and telephone contacts, furnished specific cross-reference material. Invaluable statistics were obtained through participation in professional workshops held in the State.[4]

Results

Geographically, the majority of facilities were found in the Greater Connecticut River Valley, leaving a very sparce coverage for the extreme Southeast and Northwestern parts of the State.

It was established that twenty-nine (29) facilities offered part-time speech and hearing services, twelve (12) operated on a full-time basis, and four (4) programs were in the process of development and would eventually become full-time, permanent agencies. Hence, a total of forty-five (45) facilities are in current operation in the State.

These facilities were located in twenty-eight (28) cities and towns. The largest city, Hartford, accounted for eight (8), Bridgeport five (5) and New Haven offered four (4) facilities. The various agencies offering such services in the State were:

General or Community hospitals and public health centers	16
Universities or colleges	3
State Institutions, Schools, or government departments of health and education	7
Private or non-profit organizations	19
	45

The disciplines these agencies represent showed that speech and hearing was offered *in relation* to the following:

Teacher Training	3
Deaf and Hard-of-Hearing	5
Hospitals, otolaryngology departments	3
Mental retardation	3
Public Health	18
Adult rehabilitation, crippled children, C.P	11
Independent S&H clinics, including research	2
	45

In making referrals, the essential information needed, concerning a particular facility, is the availability of specific services, such as the extent of audiometric work, whether therapy is available, and, if out-patient or private work is accepted. In

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* Supervisor, Speech and Hearing Clinic, Southbury Training School, Southbury, Connecticut.

Connecticut nine (9) facilities offer "complete" audiometric hearing testing, sixteen (16) offer standard puretone and bone conduction tests. The Department of Health offers the services of itinerant clinicians to more than eighteen (18) agencies. Speech therapy, on the other hand, is offered by thirty-four (34) agencies without reservation. Four agencies offer therapy only in relation to their specific disciplines, such as mental retardation, cerebral palsy, or adult rehabilitation, etc. Thirty-one (31) agencies reported available out-patient services and seven others indicated that such services were contingent upon special disabilities, plus diagnostic evaluations other than speech and hearing. One-third of those facilities reported the availability of private, off-duty speech therapy. Such therapy, it was indicated, was dependent upon limited, selective and private arrangements.

Hearing-aid evaluations, or selections, were available in only nine (9) places. The eventual inclusion of this badly needed service was specified by two other agencies. The remaining facilities reported no hearing-aid services and gave no indication of including such work into their programs in the future.

The related areas of otology and psychology were reported to exist in the following categories:

	Otology—		Psychology—
1	None	—	None
6	Resident, full-time	8	Resident, full-time
13	Consultant, part-time	9	Consultant, part-time
6	Referred out	7	Referred out
19	Not reported	19	Not reported

Discussion

From the information gathered during the past two years, it would appear that the actual number of paid, professional clinicians does not match the reported number of speech and hearing facilities. This factor is better understood when the "sharing of personnel" is defined. Many private organizations contract clinicians for full-time work and "rent" out their services to allied agencies for part-time employment. The five therapists in the Department of Health operate 18 part-time clinics throughout the State. In the end result, the therapist-facility ratio is made more equal on a Statewide basis.

For purposes of referral of speech and hearing cases it might seem reasonable to suggest that the referring authority choose wisely in the matter of which type of agency he contacts for his cases. The assorted disciplines represented by the 45 facilities appear to give the State comprehensive, although not adequate, coverage. Many of the reporting facilities state that they offer speech and hearing only within the framework of their organizations, such as medical rehabilitation, hearing conservation, student teaching, education of the deaf, cerebral palsy, and mental retardation programs. Few programs thus indicated are flexible enough to handle *both* diagnostic work and therapy, without suffering the limitations suggested previously. The matter of private, off-duty work, is generally left up to the discretion of the clinician as a personal choice. The trend of most administrators, though hesitant in the past, has become more flexible on this subject. In only a few instances is such work discouraged with authority. In areas of low pay, private work is actually encouraged as a means of supplementing the clinicians salary.

Summary

Due to the lack of previous investigations of this type it is difficult to measure the growth of clinical facilities in the State. From the information available it would appear that many of the facilities are recent additions to the agencies listed. Enlargement of facilities, such as the Stamford Rehabilitation Center, is one way of measuring progress. The University of Connecticut and the Southern Connecticut State College have been steadily expanding and improving their facilities with highly experienced, well-qualified personnel and excellent equipment. The Southern Connecticut State College, the Southbury Training School clinic and the Speech and Hearing Clinic in Bridgeport are the most recent additions to Connecticut's list of facilities.

Aside from the excellent support from the Department of Health, the Department of Education, and local school boards, residents of the State appear to be rather severely limited, quantitatively, in their search for speech and hearing facilities on the clinical level. They are not obviously limited in a qualitative sense, however. The Southeastern section of the State needs stimulation and guidance in the promotion of facilities to service their many speech and hearing handicapped. The only apparent answer seems to come from active legislation to establish mobile units for rural areas, and larger, better staffed and more fully equipped institutional clinics. Communities, on the other hand must recognize the need for the establishment of services in community hospitals, non-profit organizations and private clinics. Through the support of fraternal, civic and welfare groups, many small communities can support consolidated speech and hearing centers.

It is the author's expectation that the profession of speech pathology and audiology will soon become fully recognized in this State, through the recent listing in the Connecticut Register and Manual and by such annual investigations of this type. The product of this analysis is the yearly publishing of a descriptive directory* that is currently being used by the listed clinics (for intra-clinic referrals) and by otolaryngologists, social workers, psychologists, hearing-aid consultants, teachers, doctors and nurses. Through public and professional awareness progress is inevitable!

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* Complimentary copies of the "Directory of Speech and Hearing Facilities" may be obtained by writing directly to: David P. Barron, Supervisor, Speech and Hearing Clinic, Southbury Training School, Southbury, Connecticut.

REFERENCES

1. Sortini, Adam J.: *Diagnostic Centers and Educative Facilities for the Hearing Handicapped Children in New England;* Thistle Press: Somerville, Mass.: 1957.
2. Annual Directory, American Speech and Hearing Association, J.S.H.D., ,4, 1958, 516.
3. Personnel Registry, National Society for Crippled Children and Adults, Inc., *Employment Bulletin;* Chicago: 1958, 16.
4. Unpublished Report of the Speech and Hearing Workshop, Frampton Study Committee, presented before the Congressional Sub-committee on Special Education, New Haven, 1959.

More Speed, Less Haste

In the preanesthetic era, the admired surgeon was the speedy craftsman who could cut to the minimum the amount of time a patient had to endure an operation. But long after the need had gone, some surgeons considered speed as "the epitome of the craftsman's endeavour." Yet "what was necessary speed in the 19th century can be rated only excessive haste today when fluid restoration, and modern anaesthesia have relieved surgeons of the need to keep an eye on the clock."

Kocher introduced a leisurely approach; but his influence in Europe was small. Halsted's influence prevailed; and his pupil Harvey Cushing won many disciples for speed in surgery.

Information on correlation between mortality and duration of an operation should be judged with reserve. For example, an advanced lesion may require more time for the operation. Of course, long operating time has been shown to be "associated with an increase in cardiorespiratory complications and, surprisingly, with anastomotic dehiscence. . . ."

". . . Speed in itself need be neither damaging nor dangerous," and it might be well again to develop the art of speed, which sometimes is essential. For a patient undergoing surgery with an oxygenator pump, "the less time spent with the heart stopped the better." Various reasons, including danger of sepsis, call for "reasonable dispatch in surgery."

"In many operations there is a time for unhurried deliberation and a time for rapidity," and the new surgeon should strive for both. "Haste is the weakness of the tiro, speed the achievement of the experienced." The surgeon must have his objective in mind and make a direct approach to his task without taking unnecessary detours. "Thus some of the most careful surgeons are also the most rapid; and not a few relieve their inner tension by soliloquy at the same time. . . ." *(Lancet 1:582, March 12, 1960.)*

FIRST CONNECTICUT CONFERENCE ON HOMEMAKER SERVICES

Sponsored by the Connecticut Health League

PLACE: Connecticut Light & Power Company Auditorium
Berlin Turnpike, Berlin, Connecticut

TIME: Wednesday, December 7, 1960, 10:00 A.M.—3:30 P.M.

PROGRAM

10:00 REGISTRATION

Supervised by the Woman's Auxiliary to the Connecticut State Medical Society

10:30 WELCOME

Mrs. Schroeder Burnham, *Greenwich, Conference Chairman*

"Homemaker Service—The Scope and the Hope"

Mrs. Asher Yaguda, *Honorary Chairman, State Consultant, Committee on Community Homemaker Services, State Department of Health, New Jersey*

11:00 "A Look Across the Nation"

Mrs. Lucille Smith, *Chief, Health Services Organization Branch, U.S. Public Health Service, Washington, D. C.*

11:30 STAND-UP BREAK

MOVIE—"Home Again," courtesy Connecticut Heart Association

12:00 "A Connecticut Homemaker Service"

Mr. Rothe Hilger, *Executive Director, Family Service Society, Hartford*

"Homemaker Service is Essential in Organized Home Care"

Mr. Jack Brauntuch, *Co-ordinator of Out Patient Departments, Greenwich Hospital, Greenwich*

1:00 LUNCHEON IN THE CAFETERIA TICKETS AVAILABLE AT REGISTRATION DESK ($1.00)

Soup—juice
Choice of sandwiches, beverages
Assorted desserts

2:00 "Where Do We Go From Here?"—Panel Discussion

James R. Miller M.D., *West Hartford, Moderator*

Panel Members:

Miss Florence C. Austin, *R.N., Executive Dir., Hartford Visiting Nurse Association; member Editorial Advisory Committee, National Conference on Homemaker Services*

Miss Maggie Hayton, *Director of Welfare, Greenwich*

Mrs. Alice Marshall, *Manager, Connecticut State Employment Service, New Haven*

Miss Ruth McElroy, *Director, Homemaker Service, Family Service Society of New Haven*

Miss Edith Olson, *R.N., Assistant Professor of Public Health (Chronic Disease), Yale University Department of Public Health*

Peter J. Scafarello, M.D., *Treasurer, Connecticut Academy of General Practice, Hartford*

William R. Richards, M.D., *General Manager, Connecticut State Medical Society, New Haven*

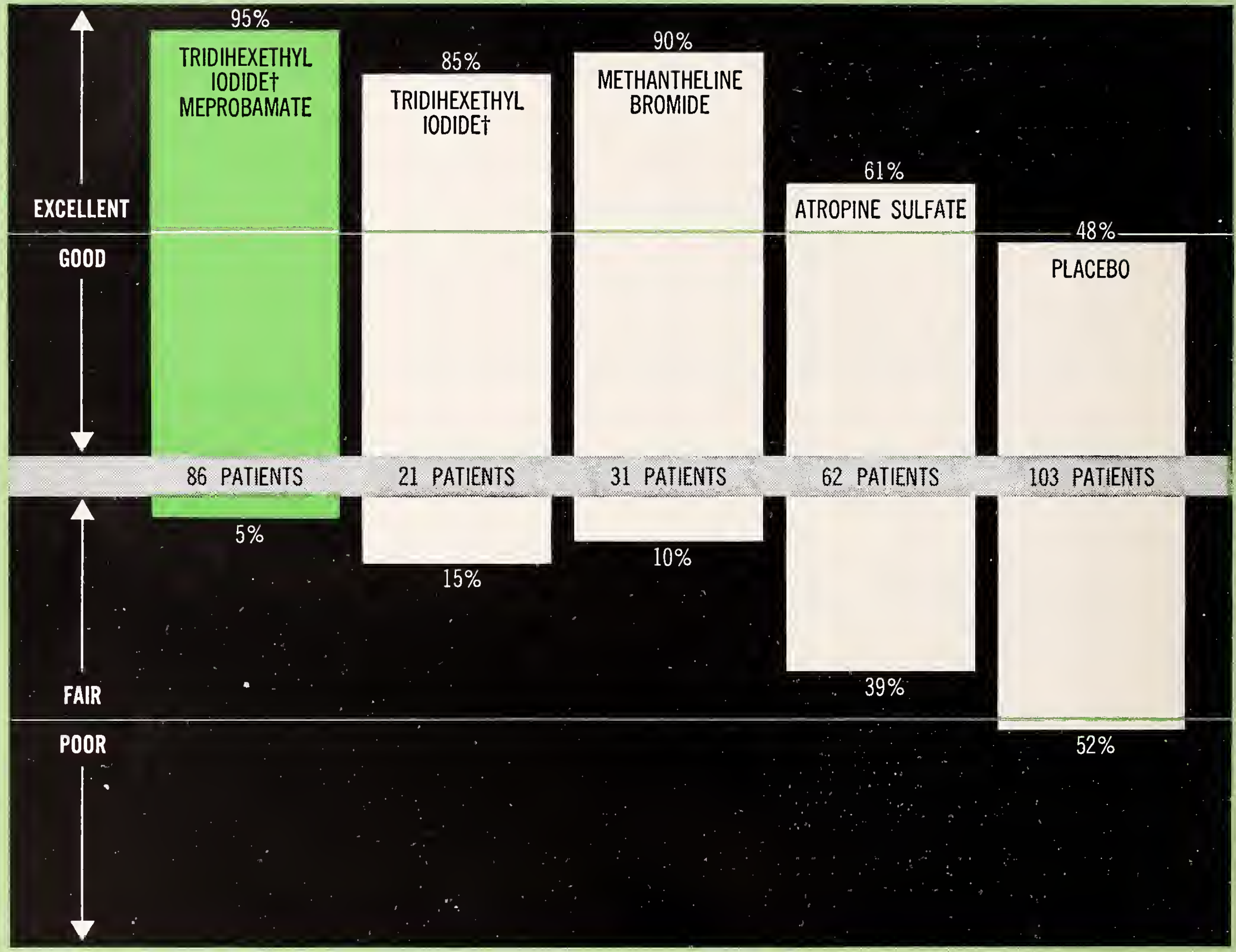
3:00 QUESTION PERIOD

3:30 SUMMARY

Harold Spencer Barrett, M.D. *Deputy Commissioner of Health, State of Connecticut, Hartford*

clinically proven efficacy.

in relieving tension . . . curbing hypermotility and excessive secretion in G. I. disorders



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Meprobamate—widely accepted tranquilizer
and
PATHILON tridihexethyl chloride—anticholinergic noted for its effect on motility and gastrointestinal secretion with few unwanted side effects.

Contraindications: glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Two available dosage strengths permit adjusting therapy to the G.I. disorder and degree of associated tension.

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.clinically proven safety

The efficacy of **PATHIBAMATE** has been confirmed clinically in **duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis** with gastrointestinal symptoms, and **gastric hypermotility.**

Pictured are the results obtained with the PATHILON (tridihexethyl iodide)–meprobamate combination† in a double-blind study of 303 ulcer patients, extending over a period of 36 months.* They clearly demonstrate the efficacy of **PATHIBAMATE** in controlling the symptoms.

SIDE EFFECTS	TRIDIHEXETHYL IODIDE† MEPROBAMATE	TRIDIHEXETHYL IODIDE†	METHANTHELINE BROMIDE	ATROPINE SULFATE	PLACEBO
DRY MOUTH	1%	5%	72%	46%	5%
STOMATITIS	1%	0%	28%	14%	0%
VISUAL DISTURBANCES	0%	0%	50%	34%	1%
URINARY RETENTION	0%	0%	18%	11%	1%
DROWSINESS	20%	0%	0%	0%	0%
COMPLICATIONS OR SURGERY					
HEMORRHAGE	0%	9%	3%	9%	10%
PERFORATION	0%	0%	0%	6%	0%
OPERATION	0%	5%	5%	14%	2%
RECURRENCES					
NONE	28%	23%	25%	17%	26%
FEWER AND MILDER	67%	62%	52%	37%	24%
SAME OR MORE	5%	15%	23%	46%	50%

*Atwater, J. S., and Carson, J. M.: Therapeutic Principles in Management of Peptic Ulcer. Am. J. Digest. Dis. 4:1055 (Dec.) 1959.

†PATHILON is now supplied as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could distort the results of certain thyroid function tests.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

control the tension—treat the trauma

Clinical Medicine

INITIAL EXPERIENCE WITH A LONG-ACTING ORAL DIURETIC, CHLORPHTHALIDOLONE (HYGROTON)*

Ralph V. Ford, M.D
Houston, Texas
With the Technical Assistance of
Joan Bush

Introduction

Chlorphthalidolone is a non-mercurial, long acting, oral diuretic of the sulfonamide group—a derivative of the phthalimidine nucleus in contrast to the benzothiadiazines. The results of observations in man following the administration of this drug constitute this preliminary report.

Materials and Methods

Ten patients with well controlled congestive failure were the subjects of the study. The acute responses of water and electrolyte excretion under controlled metabolic conditions (dietary sodium 50 mEq./day and three liters distilled water/day) were observed in these patients according to criteria and methods previously described.[1] The drug was also administered for five consecutive days to five of these patients in order to determine its repetitive effectiveness and effect on serum electrolytes and body weight. Its effects on serum biochemical architecture and body weight in various edematous states and its effects as an antihypertensive agent were also observed. These patients were observed on an outpatient basis and ate a moderately restricted sodium diet (three gms. daily).

Results

When the drug was administered in incremental amounts beginning with 12.5 mg. and extending to 200 mg. as a single dose, it was noted that the significant part of the dose response curve was found to be at the 25 and 50 mg. doses (Fig. 1). The 100 mg. dose produced a slightly greater increase in sodium excretion in these patients but was associated with evidence of clinical toxicity (nausea and weakness) in four of the 10 patients taking the drug. There was a decline in sodium excretion at the 200 mg. dose and this also was associated with further evidences of clinical toxicity (nausea and extreme weakness) in eight of the 10 patients taking the drug. It is to be noted that these side effects rarely lasted longer than 24 hours following drug administration.

When 100 mg. of the drug was given as a single dose to five patents under metabolically controlled conditions and observations made on the urinary excretion of sodium and potassium it appeared that the drug remained active for at least 36 hours and that the average duration of activity in these particular patients was 60 hours (Fig. 2). The sodium and potassium changes were paralleled by changes in urinary volume and body weight.

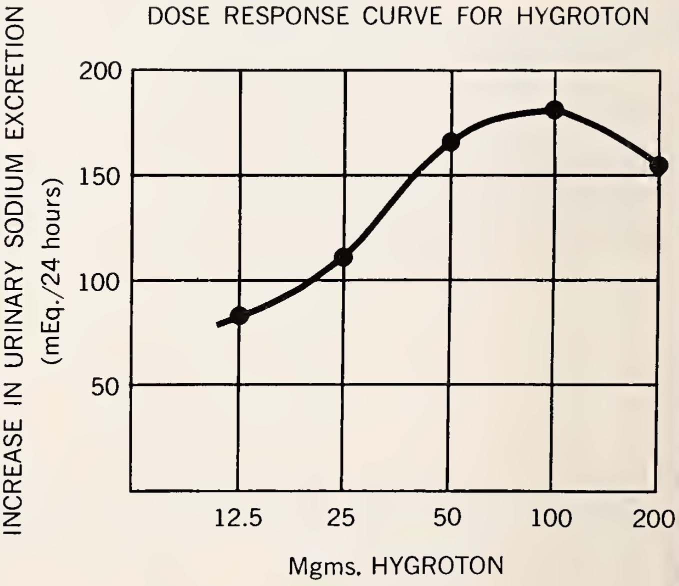

Figure I

Dose response curve for chlorphthalidolone denotes that the significant part of the curve was found to be at the 25 and 50 mg. doses. This curve was derived from the average values of 10 patients at each dose level and has a 95% confidence level.

Department of Medicine, Baylor University College of Medicine, Houston, Texas.

* Chlorphthalidolone (Hygroton), 3 hydroxy-3-(4 chloro-3-sulfamylphenyl)phthalimidine, supplied by Geigy Pharmaceuticals, Yonkers, N. Y.

Effect of Hygroton 100 mg. (Single Dose) on Urinary Excretion of Sodium, Potassium, and Volume and the Effect on Body Weight
(Averages of 5 patients)

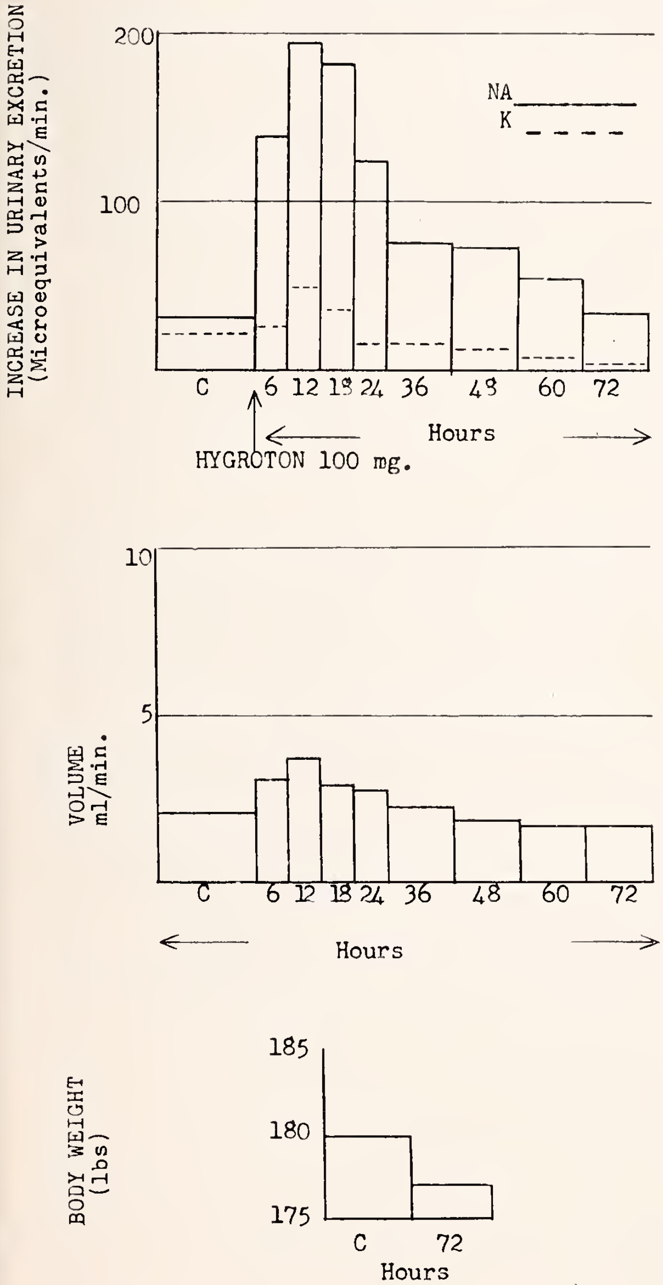

Figure II

When 100 mg. of chlorphthalidolone was given as a single dose it appeared that the drug remained active for at least 36 hours and as long as 72 with an average duration of 60 hours.

The Effect of Continuous Therapy (5 Days) with Hygroton 12.5 mg. Daily
(Averages of 5 patients)

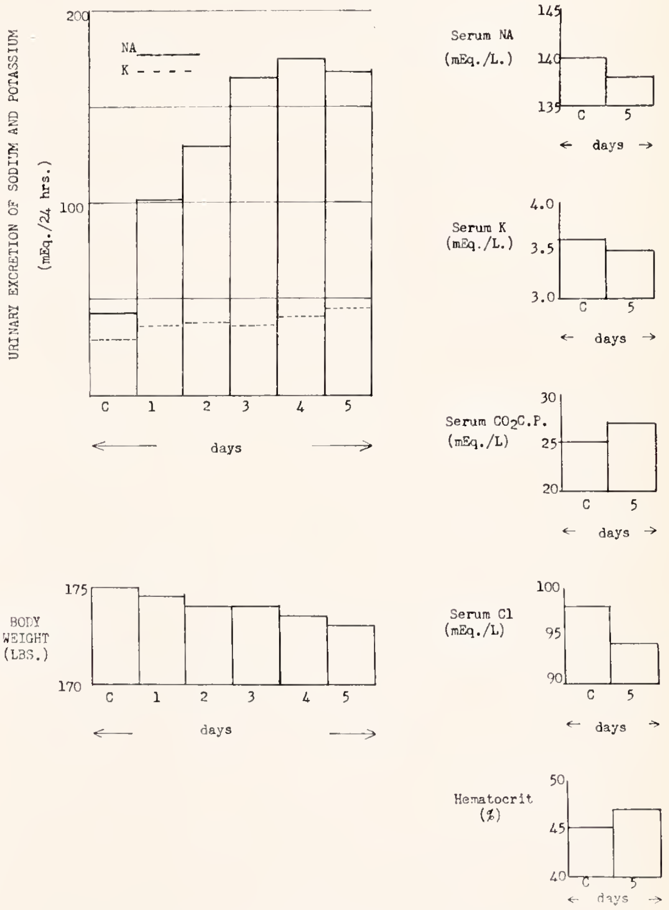

Figure III

There was a continuing excretion of sodium upon daily administration of 12.5 mg. chlorphthalidolone. A cumulative effect was also noted.

As depicted in Figure 3 there appeared to be a continuing excretion of sodium upon daily administration of 12.5 mg. to five patients.* Also to be noted was the apparent cumulative effect of the drug. After three days administration the sodium output was similar to that observed when the drug was given in a single dose of approximately 37.5 mg. No significant changes in serum electrolytes were observed.

There was a significant decrease in body weight noted in patients with various states of edema (cardiac, nephrotic, cirrhotic, "steroid," and pregnancy) treated with 25 mg. daily for 21 consecutive days. No significant changes were observed in serum electrolytes, blood urea nitrogen, hematocrit or serum transaminase. There was a slight increase in serum uric acid observed (Table I). There were no subjective complaints. (These patients are still being adequately maintained at the above dose at this time.)

The drug appeared to be effective singly as well as in combination with rauwolfia and ganglionic blocking agents in the therapy of hypertension (Table II). Of further interest was the fact that at this dose of 100 mg. daily, approximately 30 per cent of the patients complained of weakness and nausea

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* These data are presented as averages in Figure 3 and the variance is ± 30 mEq./24 hours.

Table I

Clinical Responses to Hygroton in Various Edematous States
(Average Values for Each Group)
(Dose of 25 mg. daily)

TYPE OF EDEMA	NUMBER OF PATIENTS	PERIOD	CUMULATIVE WEIGHT LOSS (LBS.)	(SERUM ELECTROLYTES MEQ./L.)				BUN (MG%)	HCT. (%)	URIC ACID (MG%)	TRANS-AMINASE (CABAUD UNITS)
				NA	K	CO_2 C.P.	CL				
Cardiac	10	Control		144	4.4	25	104	21	46	4.1	27
		Day 21	6	143	4.2	26	101	24	48	4.8	25
Nephrotic	4	Control		142	4.4	23	104	20	42	3.8	18
		Day 21	5	140	4.3	25	102	21	44	4.4	20
Cirrhotic	2	Control		139	4.2	25	99	12	43	4.0	185
		Day 21	8	138	4.0	27	97	14	45	4.6	173
"Steroid"	3	Control		143	4.5	24	108	11	44	5.9	18
		Day 21	5	142	4.3	26	105	12	46	6.6	18
Pregnancy	1	Control		145	4.3	25	108	9	43	3.1	10
		Day 21	4	144	4.2	26	106	9	44	3.5	15

on the second day of drug therapy. However, this rarely lasted longer than one day and there were no further complaints. An apparently greater antihypertensive effect has been observed with this compound in comparison to that noted with previous thiazide drugs used.

Discussion

Chlorphthalidolone (Hygroton), 3 hydroxy-3-(4 chloro-3-sulfamylphenyl) phthalimidine, is a new non-mercurial oral diuretic of the sulfonamide group (Fig. 4). Of note is the fact that this drug is a phthalimidine derivative rather than a benzothiadiazine derivative.

Although the effective dose levels have been reported as being much higher[2] than those in our report, the differences may be attributed to the strictly-controlled conditions under which the patients were managed.

In general, the patients with hypertensive cardiovascular disease maintained on 100 mg. of the drug reported good subjective responses and often volunteered the information that their urine output had noticeably increased in volume. However, since over one-third of them complained of nausea and weakness at one time or another, and since the edematous patients were adequately maintained on 25 mg. daily, we are observing the possible efficacy

Table II

The Effect of Hygroton as an Antihypertensive Agent
(Average values for 5 Patients in Each Group)

ANTIHYPERTENSIVE REGIMEN IN THE "CONTROL" STATE	BLOOD PRESSURE*						
	CONTROL			THREE WEEKS†			
	S	D	MBP	S	D	MBP	"P"
None	181	114	136	158	88	111	.01
Rauwolfia 100 mg. twice daily	150	102	118	132	79	97	0.1
Rauwolfia plus mecamylamine (ganglionic blocking doses)	162	103	123	146	82	103	.01
Rauwolfia, mecamylamine and chlorothiazide‡	192	108	136	154	92	113	.01

Key:
* Blood pressure values are recorded in the upright position.
† Values after three weeks therapy with Hygroton 100 mg. daily.
‡ Hygroton was a replacement for chlorothiazide in a dose of 1000 mg. daily.
S—Systolic. D—Diastolic. MBP—Mean blood pressure (diastolic plus one-third the pulse pressure).
"P"—P values determined by Student's "t" test.

of a smaller dose in this state. The prolonged activity of the drug, and its potency estimation* of 1.8 (Table III) holds much promise for those who cannot or will not restrict sodium intake and/or take medications regularly.

Conclusions

Chlorphthalidolone (Hygroton) is a new potent, repetitively effective, long acting (60 hours) diuretic agent of the sulfonamide group. It has also been proven to be effective in various edematous states and in antihypertensive therapy.

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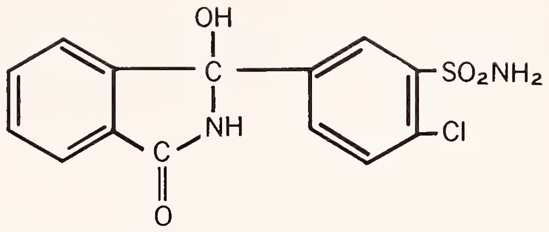
1. Ford, R. V., Moyer, J. H., and Spurr, C. L.: Clinical and laboratory observations on Chlorothiazide (Diuril). A.M.A. Arch. Int. Med., 100: 582, 1957.
2. Preclinical brochure. Geigy Pharmaceuticals. Ardsley, N. Y., May, 1959.
3. Ford, R. V., Spurr, C. L., and Moyer, J. H.: The problem of bioassay and comparative potency of diuretics. I. Parenteral and oral mercurial diuretics. A. M. & C. T., 4: 708, 1957.



3-hydroxy-3-(4-chloro-3-sulfamylphenyl)phthalimidine

G-33182 HYGROTON

FIGURE IV
Structural formula for chlorphthalidolone.

TABLE III
COMPARISON OF POTENCY OF VARIOUS DIURETIC AGENTS

	ROUTE OF ADMINISTRATION	POTENCY ESTIMATION*
Chlorphthalidolone (Hygroton)	Oral	1.8
Hydrochlorothiazide (Hydrodiuril)	Oral	1.4
Meralluride (Mercuhydrin)	Intramuscular	1.0
Chlorothiazide (Diuril)	Oral	0.8
Chlormerodrin (Neohydrin)	Oral	0.5

* Determine from previous analysis of variance of these drugs.

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* This expression refers to the result of calculations derived from data obtained in an analysis of variance and compares the new drug to a standard, such as meralluride, which is unity.[3]

The Diagnostic Laparotomy

Laparotomy for diagnosis deserves earlier, more frequent use and greater respect," according to Dr. F. John Lewis. It is proper to make a diagnosis before undertaking a laparotomy, but at times it can be dangerous to delay this operation. Chances of cure and the patient's finances and patience may "have all been sadly diminished."

Possibility of a twofold embarrassment may make a surgeon decide to avoid a diagnostic laparotomy—one embarrassment arising if the exploration reveals no pathologic condition, the other for fear of being accused of having undertaken a superfluous operation. On the other hand, a surgeon may be deterred by consideration of operative risk.

A dangerous operation should, of course, be avoided, but a laparotomy that doesn't entail major resections presents a low risk, probably less risk than is involved in an exploratory thoracotomy. A thoracotomy is more acceptable probably because a roentgenologic shadow seems to offer substantial indication for the operation. Pain, indigestion, poorly defined masses, or chronic influenza may be vague findings in comparison to the x-ray shadow but are enough to warrant performing a laparotomy.

The surgeon must decide at the operating table what course to take in the diagnostic laparotomy. Delay is bad, and the cost to the patient cannot be a major factor in deciding whether to undertake the diagnostic laparotomy. If no pathologic finding is made, the patient may quickly be discharged from the hospital, thus diminishing his costs; "and the surgical fee need not be large."

If findings are negative, the patient should be informed and the surgeon must admit the fact to himself. "If the laparotomy discloses a disease-free abdomen, the patient makes no criticism; he is relieved to have the matter settled." *(Surg. Gynec. & Obst. 111:376, September, 1960.)*

Pathology Laboratory Notes

Roy N. Barnett, m.d.
Norwalk

Serologic Tests For Syphilis

Earle K. Borman
Director, Laboratory Division, Office of Public Health, Connecticut State Department of Health, Hartford, Connecticut

During the past few years the Laboratory Division of the Connecticut State Department of Health has made important changes in the types of serologic tests available for the diagnosis of syphilis. The current tests are:

1. *VDRL slide flocculation*—This is performed quantitatively on all specimens. It is sensitive and yields some false positives.
2. *KRP complement fixation*—This is performed on all spinal fluids and on all VDRL positive bloods. Using Reiter's treponeme as an antigen, it yields only rare false positives.
3. *TPI*—The *Treponema pallidum* immobilization test is available through the U. S. Public Health Service. It is probably the most specific test for syphilis. Because it is very difficult and expensive to perform, it is only utilized in the following special cases:
    - A. Persons with no evidence of syphilis other than laboratory findings or
    - B. Persons with symptoms suggestive of syphilis but non-reactive to standard serologic tests.
    - C. The patient must also have had:
        - a. Two positive blood tests on separate dates, a spinal fluid test if possible, and
        - b. no antibiotics for at least a month.

Stages of Syphilis

The VDRL usually becomes positive late in the primary stage and rises to 16 dils or higher in the secondary stage. Titre in latent or late syphilis is usually low. Regression to seronegativity after treatment may take from three months in primary syphilis to several years in later stages.

Non-Specific Reactions

These are very rare with the KRP. With the VDRL they rarely exceed eight dils. *Acute* reactions accompany certain febrile diseases and soon disappear; after vaccinia or infectious mononucleosis they may persist for some time. *Chronic* reactions suggest the presence of a generalized disorder, particularly one of the "collagen diseases," although there may be no clinical evidence at the time.

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Attention of All Physicians

Vaccinia Immune Globulin

A program for the preparation and distribution of vaccinia immune globulin (VIG) has been established by the American National Red Cross in cooperation with the Armed Forces of the United States as another regular service of the Red Cross Blood Program. This hyperimmune gamma globulin is prepared from blood provided by the Armed Forces from recently vaccinated servicemen. It contains a high titer of antibodies effective in arresting abnormal infections with vaccinia virus, the agent used in vaccination to produce immunity to the related but dangerous virus of smallpox.

The importance of universal vaccination against smallpox has been demonstrated repeatedly. Thousands of cases continue to occur in those parts of the world in which precautions against the disease are inadequate. This universal vaccination is more important than ever because of the increase in rapid world-wide transportation.

There are two situations related to smallpox prevention in which something more than vaccination is needed. The first is the situation in which there is a known exposure to smallpox and an added boost of immunity is needed. The second problem presented is the rare occurrence of complication from the vaccination itself. These situations represent medical emergencies in which adequate treatment must be given as early as possible. VIG has been developed to give the physician a specific means of managing these conditions.

The American National Red Cross has undertaken a program for the production and distribution of sufficient VIG to meet the needs of the country. Since the scant supply of this rare blood fraction could be dissipated if it were used when not indicated, seven physicians on the staffs of prominent medical colleges throughout the country have been appointed as volunteer Red Cross consultants to assist in the distribution. Any physician who feels that VIG might be required for a patient should telephone the nearest consultant, whose name, address and telephone number may be obtained from the nearest Red Cross regional blood center. If it is agreed that the condition of the patient will benefit from treatment with VIG, the consultant will authorize its shipment from the nearest regional blood center. Fifteen of the 54 Red Cross regional blood centers, chosen because of their geographical location, have been stocked with VIG. These regional blood centers have a 24-hour coverage and are equipped to arrange immediate transportation to the attending physician by the most rapid means available.

In recent years the Red Cross has assisted Dr. C. Henry Kempe, professor of pediatrics at the University of Colorado Medical Center, in carrying out a large-scale clinical research program. His studies and those of other investigators show that VIG is not indicated in (1) cases which are not vaccinia, such as chickenpox, herpes zoster (shingles), etc.; (2) normal vaccinations which are disturbing to the patient because of the febrile reaction, pain and swelling that are to be expected with normal primary "takes"; and (3) trivial secondary inoculations on non-vital areas of the body. VIG is effective in preventing the disease or diminishing the severity of smallpox in individuals who have had close contact with a case of smallpox. It is also highly effective in the treatment of the rare complications from vaccination, the most frequent of which is accidental inoculation into the eye resulting from a child touching the vaccination and then putting his finger in his eye. Early treatment with VIG will result in a marked improvement within hours and prevent possible loss of vision. Special care should be taken in vaccinating children if they have brothers or sisters with eczema because of the likelihood that they might develop vaccinia lesions on their affected skin areas, "eczema vaccinatum." Before VIG was available this condition carried a high mortality rate in very young children, but now adequate treatment arrests the progression of this disease. Very rare individuals lack the normal body defenses against infection and may develop such serious conditions as generalized vaccinia or vaccinia necrosum; VIG is the only specific treatment for these conditions.

A report form will accompany each shipment of VIG, and the physician is requested to complete and return it to the Research Director, Blood Program, American National Red Cross Headquarters, Washington 6, D. C.

Any Connecticut physician contemplating the use of this material should contact:

HEINZ F. EICHENWALD, M.D.
Associate Professor of Pediatrics
The New York Hospital-Cornell Medical Center
525 East 68th Street, New York 21, N. Y.
(TRafalgar 9-9000, ext. 7428)
(Residence: Hastings-on-Hudson, N. Y.
GReenleaf 8-3264)

Around The State

New Haven County Honors Past Presidents

Ten doctors were honored by the New Haven County Medical Association at its semi-annual meeting held on October 20 in the Waverly Inn in Cheshire.

All of them, past presidents of the Association, were presented plaques in appreciation for their services during their terms. The awards were given to:

Dr. Samuel B. Rentsch of Derby, president in 1948; Dr. James A. Gettings of New Haven, president in 1949; Dr. Henry J. Stettbacher, formerly of Waterbury, now of Cambridge, Maryland, president in 1950; Dr. Walter I. Russell of New Haven, president in 1951; Dr. Israel S. Otis, of Meriden, president in 1952; Dr. Michael J. Conroy of Meriden, president in 1955; Dr. Jacques H. Green of Waterbury, president in 1956; Dr. Charles T. Flynn of New Haven, president in 1957; Dr. Clyde L. Deming of New Haven, president in 1958 and Dr. John M. Freiheit of Waterbury, president in 1959.

Dr. Henry Caplan of Meriden, presided at the meeting which was well attended.

Dr. Redlich and Dr. Kubie Join Medical Board at Hall-Brooke

Frederic C. Redlich, M.D., Professor and Chairman of the Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut and Lawrence S. Kubie, M.D., Clinical Professor of Psychiatry at Yale (on leave) and Director of Training at The Sheppard Pratt Hospital of Towson, Maryland have joined the Medical Advisory Board of Hall-Brooke, an accredited psychiatric hospital of seventy-five beds, in Westport, Connecticut.

This announcement was made by Albert M. Moss, M.D., Medical Director, and Leo H. Berman, M.D., Clinical Director.

Editor of Rhode Island Medical Journal Dies

The Rhode Island Medical Journal reports with sorrow the death, on September 17, 1960, of Dr. John E. Donley, distinguished Editor-in-Chief of the Journal, a past President of the Rhode Island Medical Society, and the only Rhode Island recipient of the Dr. Charles Value Chapin Award of the City of Providence.

Dr. Goldowsky To Succeed Dr. Donley

Rhode Island Medical Journal announces that the House of Delegates of the Society, assembled in meeting on September 28, 1960, elected Dr. Seebert J. Goldowsky as the new Editor-in-Chief of the Rhode Island Medical Journal to succeed the late Doctor Donley. Doctor Goldowsky has been an Associate Editor of the Journal for many years.

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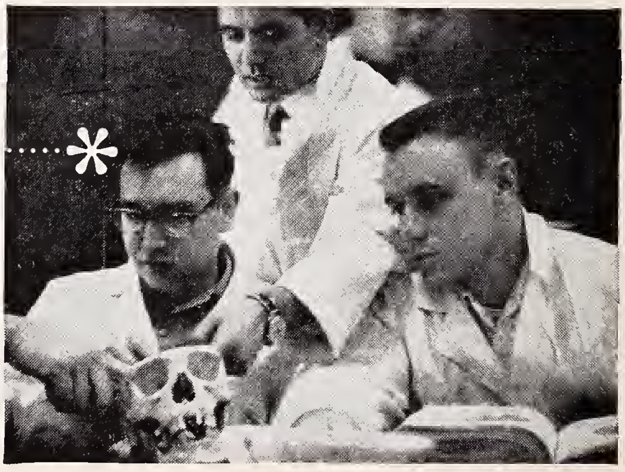

Studies Support Immunity Theory In Infectious Hepatitis

Studies reported today support the theory that immunization against infectious hepatitis may be achieved with gamma globulin.

The studies were reported by Drs. Saul Krugman, Robert Ward, Joan P. Giles, and A. Milton Jacobs of New York City in the current Journal of the American Medical Association.

The results indicated that gamma globulin was able to suppress the symptoms of hepatitis, mainly jaundice, although it did not prevent infection by the hepatitis virus.

"Measles, modified by gamma globulin, is the obvious parallel to be drawn," the Journal commented editorially. "If it can be shown that 'modified hepatitis,' i.e., without jaundice, is as benign as modified measles and is also followed in most cases by immunity, then this method of artificial active immunization against infectious hepatitis should be recommended."

Infectious hepatitis is caused by a virus entering the body through the mouth, nose, or throat. The onset usually is sudden with chills, fever, nausea, diarrhea, and in a few days, jaundice.

The studies were conducted at a children's institution, the Willowbrook State School, Staten Island, N. Y., where the incidence of hepatitis was high.

One study showed a 30-fold decrease in the incidence of hepatitis with jaundice for a five-month period following inoculation with gamma globulin.

In another study of a small group, it was found that infectious hepatitis occurred among children inoculated with gamma globulin although no symptoms of the disease were apparent. A larger group must be studied to determine the accurate incidence of hepatitis without symptoms following gamma globulin inoculation, the researchers said.

Doctor's Office

Frederick R. Behringer, M.D., and Edward R. Comstock, M.D., announces their association in the practice of obstetrics and gyneclogy at 150 Broad Street, New London.

Noel L. Conrade, M.D. announces the opening of an office for the general practice of medicine at 278 East State Street, Westport.

Francis R. Coughlin, Jr. M.D., announces the opening of an office for the practice of general surgery and thoracic surgery at 21 Broad Street, Stamford.

Walter J. Duksa, M.D., announces the removal of his office from 525 Main Street to 40 Wethersfield Avenue, Hartford.

Frank Gruskay, M.D., announces the removal of his office from 1523 Chapel Street to 91 Cherry Street, Milford.

William T. Kennedy, M.D., announces the opening of an office for the general practice of medicine and gynecology at 51 High Ridge in Ridgefield.

Ludwig L. Markley, M.D., announces the removal of his office from 657 Clinton Avenue to 2660 Main Street, Bridgeport.

Stuart D. Marsh, M.D., announces the opening of an office for practice of pediatrics at 43 Marilyn Road, South Windsor.

Henry D. Minot, Jr., M.D., announces the opening of an office for the practice of thoracic and cardiovascular surgery as well as endoscopy, in association with Dr. W. Zeph Lane at 767 Post Road in Darien.

William D. Ryan, M.D., announces the opening of an office for the practice of internal medicine at 1061 Silas Deane Highway, Wethersfield.

A. Craig Shealy, M.D., and George L. Cushman, M.D., announces their association in the general practice of medicine at Judson Avenue, Woodbury.

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Members of the Civil Defense Committee of the Women's Auxiliary to the Connecticut State Medical Society met at 10 A.M., September 29th, at the Yankee Silversmith in Wallingford for a planning session and luncheon, with the able assistance and suggestions of Mrs. Doris Jacobson, R.N., Red Cross Nursing Representative for Connecticut and Rhode Island.

A 4 x 6 inch index card will be used during the year to develop an active and duplicate file of auxiliary volunteers who could be helpful in time of natural or military disaster, either full-time or part-time.

A self-education survey sheet is to be developed by counties to include information about the 169 Connecticut cities and towns. The information obtained should be helpful in developing needed training and refresher programs in many communities, and in increasing the working relationship between our members, our husbands, and other agencies of each community in time of disaster and in advance planning.

Mrs. Ralph L. Gilman
Civil Defense Committee Chairman
for the Auxiliary

Governor's Conference On Recreation

On September 12, 1960, your president-elect represented the Woman's Auxiliary to the Connecticut State Medical Society by invitation from the Governor to the First Governor's Conference on Recreation held at the Hotel Statler-Hilton in Hartford.

The purpose of the conference was to create an awareness of the role that recreation plays in community living and to emphasize the responsibility of the modern community in providing recreation programs, facilities and qualified leadership. A general assembly was held in the morning followed by luncheon, workshops and summaries with recommendations.

Recreation was interpreted to mean participating in an activity when you wish to do it without compulsion and is important for all ages and both sexes. It was emphasized that different backgrounds have a common ground in recreation and can contribute to America. Also, recreation changes a town into a community and a community into a group of friends. In reference to Hospital recreation, it was noted that medical clearance for programs would be essential but some fun and social activities may be injected rather than just dressing and eating for the handicapped.

Respectfully submitted,
Blanche P. Rosenbaum, *President-Elect*
(Mrs. George J.)

Rare Family Occurrence of Disease Reported

The extremely rare occurrence of myasthenia gravis, a muscular disorder, among three members of the same family was reported today by two Pittsburgh physicians.

Drs. Francis F. Foldes and Pearl G. McNall reported the disease in a 73-year-old mother and her two daughters, aged 45 and 38, in the current Journal of the American Medical Association.

The disease, characterized by weakness and easy fatigability, "has not been considered a hereditary disease," the authors said.

However, the statistical possibility of the disease occurring in three members of this six-member family is "less than one in a trillion," they said.

"Consequently, the possibility cannot be excluded that either hereditary or environmental factors might be involved in the etiology [causes] of myasthenia gravis," they concluded.

The disease most frequently affects muscles of the face, throat, and respiratory system. It causes a sleepy facial expression and abnormal speech. The disease occurs at all ages and in both sexes.

"...extraordinarily effective diuretic..."[1]

Efficacy and expanding clinical use are making Naturetin the diuretic of choice in edema and hypertension. It maintains a favorable urinary sodium-potassium excretion ratio, retains a balanced electrolyte pattern, and causes a relatively small increase in the urinary pH.[2] More potent than other diuretics, Naturetin usually provides 18-hour diuretic action with just a single 5 mg. tablet per day — economical, once-a-day dosage for the patient. Naturetin c̄ K — for added protection in those special conditions predisposing to hypokalemia and for patients on long-term therapy.

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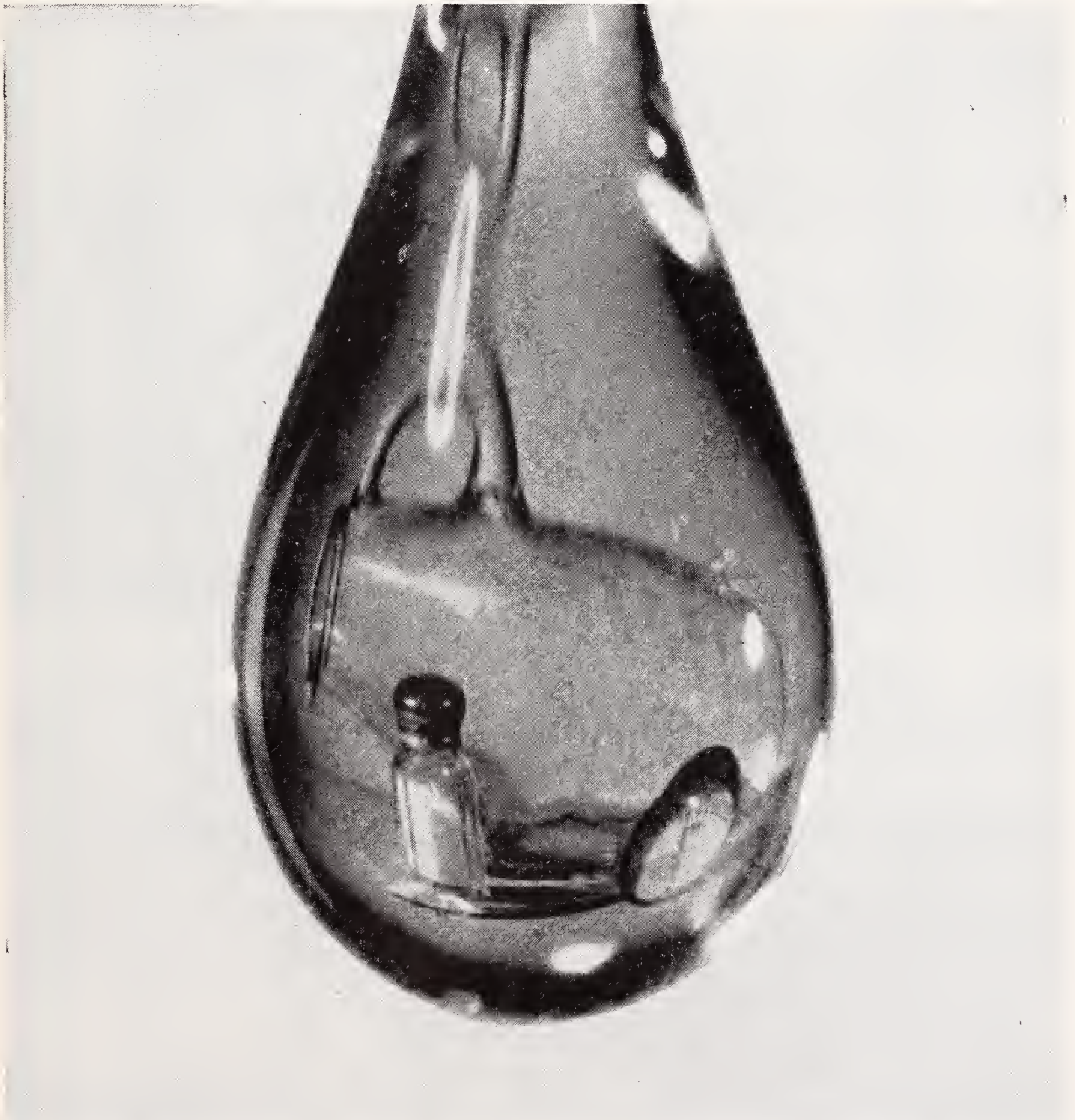

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Book Reviews

PRACTICAL CLINICAL MANAGEMENT OF ELECTROLYTE DISORDERS by William J. Grace, Director of Medicine, The St. Vincent's Hospital of the City of New York, Appleton-Century-Crofts, Inc., New York 1960. 126 pp. $9.50.

Reviewed by Denis S. O'Connor

The successful treatment of many surgical conditions today is as much if not more dependent upon what happens in the patients physiology than upon surgical technic. And while internists as a rule have a better understanding of the patient's condition as represented by laboratory findings, it is just as vital that the surgeon be able to intelligently request appropriate laboratory test and to interpret them in the light of the patient's condition.

This small book which may be carried in the coat pocket could be a medical consultant to the surgeon faced with a functional problem.

There are seven chapters on "What happens"

1. In vomiting or prolonged gastric suction.
2. In heart failure.
3. In severe renal disease.
4. In acute renal failure.
5. In uncontrolled diabetes and
6. In digitalis and electrolyte disturbances.
7. In magnesium deficiency.

and one is informed in simple and clear language which should enable the surgeon to meet the indicated problems.

The chapter on "Replacement of Electrolytic Deficits" is a very practical and easily understood approach to this clinical necessity.

As might be expected from its small size there is little redundant wordage but each chapter has an excellent bibliography pertinent to the subject of the chapter with a good general reference at the end of the book.

While the surgically oriented think of this book primarily for the surgeon and assumes that this is already in the mental armamentarium of the internist, many internists as well as general practitioners would find this book a valuable handbook to meet some of the puzzling physiological conditions which so frequently face us.

YOUR CHILD'S CARE by Harry R. Litchfield, M.D., and Leon H. Dembo, M.D. Doubleday and Company, New York, 1960, 257 pp., $3.95.

Reviewed by Milton Senn

This is a revised and enlarged edition of an earlier manual for mothers on child care by these two pediatric educators and practitioners. Using the question-and-answer approach, 1,001 separate problems are dealt with, the greatest attention being given to those of physical care and disease. Advice on behavior and psychologic management is practical and a combination of conservatism and permissiveness. For example, thumbsucking is dealt with permissively but pacifiers are disapproved of. There may be mild disagreement with some of the advice given. For example, practitioners would not be in agreement that breast milk is the best food for the premature. This book may be recommended as a safe adjunct to the services of a well-trained physician.

SYNOPSIS OF GYNECOLOGY by R. J. Crossen, M.D., D. W. Beaham, M. D., and W. D. Beacham, M.D. The C. V. Mosby Co., St. Louis, Mo., 1959, 332 pp. $9.50.

Reviewed by Clarence D. Davis

This fifth edition adds the two authors, i.e., D. W. and W. D. Beacham. It appears only three years after the previous edition. The other editions are much better spaced, with the first edition being in 1932. The new authors have added considerable stimulus to this edition. Two new chapters have been added, one on endometriosis and the other on pregnancy complications. Abortion, hydatid mole and choriocarcinoma are more adequately covered. Twelve of the 16 chapters have been completely rewritten.

It is interesting that 10 pages of the manuscript are devoted to malposition of the uterus and only 10 pages for the entire discussion of pelvic infection. Infertility is covered in five pages, whereas, malignant disease takes 26 pages. It seems to the reviewer that, from the standpoint of medical students, there could be a more equitable distribution of space.

It is quite surprising that a full page illustration of Haman exercises for dysmenorrhea was presented. It has been the opinion of this reviewer that this treatment for dysmenorrhea was of no particular significance.

From a positive point of view this edition seems to have better format with less printing that is difficult to read.

By and large, if one is looking for a superficial treatise of gynecology, this edition is an improvement on the last, and answers fairly satisfactorily a relatively cursory presentation of the subject.

BIOCHEMISTRY OF HUMAN GENETICS, Ciba Foundation Symposium, Little Brown & Co., Boston, Mass. 328 pp. $9.50.

Reviewed by Herbert Lubs

This volume is one of the best in the generally good CIBA Symposia series. The title, however, is misleading since three-quarters of the book is devoted to our present knowledge of the variation in serum proteins and erythrocytes. All of the authors are outstanding contributors to their fields and the sections are generally lucidly written as well as authoritative.

The sections by Ingram and by Itano which trace the unraveling of hemoglobin structure through the current determination of the peptide and amino acid structure by the "fingerprinting" technique and various globin chain recombinations are particularly outstanding. The present concept of thalassemia is well outlined. The sections on blood group antigens by Morgan, Watkins and Ceppelini lack the unity of the chapters on hemoglobin primarily because the work has not progressed as far. The findings are still impressive, however, and the conclusion that individual antigen specificity could be localized to definite small carbohydrate structures, and that several of these (both A and B, for example) can be located on the same mucopolysaccharide molecule is of great interest.

The discussion of primaquine sensitive red cells by Childs and of the genetic significance of the haptoglobin types in linkage studies by Harris and Smithies are excellent.

The book is not a primer of biochemical genetics. The scope is limited and most of "Inborn Errors of Metabolism" are not discussed. Although the authors describe the biochemical techniques clearly, the genetic terms and mechanisms are not defined. The reader unfamiliar with such words as polymorphism, segregation, and transforming gene will have difficulty in grasping the significance of much of the discussion. The clinician's understanding of the various diseases will certainly be increased by reading this volume, but clinical significance is implied and not discussed.

EVOLUTION OF NERVOUS CONTROL FROM PRIMITIVE ORGANISM TO MAN by Allan D. Bass, Editor, American Association For The Advancement of Science, 1515 Massachusetts Ave., N.W., Washington, D. C. June 1959, 240 pp. $5.75.

Reviewed by Louis H. Nahum

The reason why complex organisms were able to survive is that they developed systems of control which enabled them to respond to changes in the external world. This characteristic of life is reflected in their behavior. The lowly unicellular organisms already "behave" by making adjustments to the constant and varied external stimuli and in this way they exhibit a crude type of learning process. In some way the cell decodes the information it receives from the external world and generates appropriate responses. The nature of these regulating mechanisms is almost unknown. The workings of the human brain is also little known although we are enthralled by this marvellous apparatus which controls the constancy of the internal environment, all the instinctive patterns of unconscious behavior, respiration, circulation, digestion, excretion, reproduction and in fact most of the mechanisms involved in successful integrative activity. But beyond this is the capacity for abstract thought and the mysterious inward awareness by some called "mind."

Man has descended from remote ancestors by continuous changes. A knowledge of the lower forms should help us to understand nervous control in man. The vast difference between the nervous system in man and "non-nervous" control mechanisms in unicellular organisms, should not blind us to the basic biochemical energy mechanisms which exist in both systems.

Chapter I by Sinnot is concerned with a common basis for development and behavior in organisms. He emphasizes the basic biological character of nervous activity and that it is essentially self-regulatory. Chapter II by Niu deals with current evidence concerning chemical inducers. Ribonucleic acid compounds seem to be inducers of various parts of the embryo to differentiate into specific structures. Then inducer substances escape from cells of the inducter tissue into the medium and alter ectodermal development. The phenomenal activity of freshly isolated ribonucleic acid from calf kidney and liver to induce the formation of specific structures is a revolutionary concept.

Chapter III by Prosser is on comparative neurophysiology but here a little more comparative anatomy would have thrown light on evolution of nervous activity which most physiologists could use in their thinking.

Chapter IV is on evolution of conduction in the nervous system by Grunfest, a thorough and basic treatment of the generalized excitable cell with its three functionally distinct portions. The receptor element excited by specific non-electrical stimuli, causing electrogenesis. It can be depolarizing or hyperpolarizing (inhibition). The second component is the electrically excitable, spike generating membrane structure, conducting coded messages from the receptor input to the output of cells. The terminal portion is essentially a secretory structure capable of releasing specific excitants for the input of the next post junction cell, the third component. This may be another neuron or effector such as muscle fibers or gland cells. Differences in relative amounts of inhibitory and excitatory synaptic structures, in their chemical properties and in the nature of their excitation by pathways and transmitter agents are the elements upon which is built the complexity of integrative activity within the central nervous system.

Chapter V by Koelle is on neurohumoral agents as a mechanism of nervous integration in which the various known substances like acetyl choline, norephenephrine-epinephrin, adenosine triphosphate, serotonin, y-aminobutyric acid (GABA) and some unidentified substances are discussed.

Chapter VI, by Brady, deals with the effect of drugs on animal behavior but essentially it is a study of normal and anxiety produced animals as they respond to reserpine and amphetamine.

Chapter VII by Page on the chemistry of the brain is a delightful historically oriented treatment of neurochemistry. His explanation of the slowness of development of this rapidly expanding area sets up the usual whipping posts. Freud, the philosophic dichotomy of brain and mind in which he introduces God for good measure, and finally Marx.

Teuber discusses alterations in behavior after cerebral lesions in man and finally Mirsky discusses psychoanalysis and human behavior emphasizing the experimental approaches. This last chapter is particularly one that should be read by psychiatrists and psychologists. It briefly summarizes Freud's concepts and shows step by step their experimental validation. Freud opened vast areas of human behavior that were hitherto unknown. By his unique technique he probed the human unknown and derived various working hypotheses as guides for further exploration. Mirsky shows us the various experimental techniques which have already validated and strengthened most of Freudian psychology.

There is something in this book for every student of the nervous system except comparative anatomy of the emerging functions. But this would require another volume.

DISEASES OF THE NEWBORN by Alexander J. Schaffer, M.D. with a Section on Neonatal Cardiology by Milton Markowitz, M.D. W. B. Saunders Company, Philadelphia and London, 878 pp. $20.00.

Reviewed by Grover F. Powers

This is a scholarly and comprehensive volume on a very important subject by a physician of consummate skill in clinical pediatrics and with understanding and discrimination in utilization of technical medical procedures for therapy and study.

The title of the book is "Diseases Of The Newborn"—the subject newly termed "neonatology" by the authors. The professional activities of many pediatricians and investigators in many fields have been increasingly in this area of medicine during recent years. The results both quantitative and qualitative of these varied studies are amply demonstrated by the excellence of the contents and the generous size of the book—particularly when comparison is made with earlier volumes on diseases of the newborn.

One looks forward hopefully to the time when a book on neonatology will be rich in data and interpretations in the domains of psychology and social behavior—an emphasis, that is, on the normal newborn (if the term is permitted) as well as is done in Dr. Schaffer's excellent book on the pathological.

Although coining a new term for their subject the authors favor its integration with general pediatrics and close liaison with obstetrics and general practice; the reviewer regards this point-of-view as highly desirable.

TUMORS OF THE FEMALE SEX ORGANS; Part 2, TUMORS OF THE VULVA, VAGINA AND UTERUS by Arthur T. Hertig, M.D., and Hazel Gore, M.B., B.S. (Armed Forces Institute of Pathology 1960). 275 pp. $2.50.

Reviewed by Roy N. Barnett

This is fascicle 33 in the Atlas of Tumor Pathology published by the Armed Forces Institute of Pathology. Like most of its predecessors it is an authoritative and up-to-date discussion. The seven good color plates and the 279 excellent black and white charts, photographs and photomicrographs alone are worth far more than the nominal price of this volume, and are made possible only through a generous subsidy by several private and governmental agencies.

Doctors Hertig and Gore give major attention to the commoner tumors, namely epidermoid carcinomas of the vulva and cervix, and adenocarcinoma of the endometrium, but still find room to discuss all of the rarer and less important tumors and tumor-like conditions. There is thoughtful consideration of the premalignant and in situ lesions which are so readily identified and followed in the female genital tract.

The terms employed are with few exceptions those in general use, an excellent practice from which a few of the other fascicles have unfortunately departed. The term "Malignant Mixed Mullerian Tumor" to include carcinosarcoma, mixed mesodermal tumor and sarcoma botryoides is the major change from the more usual diagnoses and will probably be accepted rather slowly if at all.

There is a brief discussion of proper treatment for many of the lesions. Use of the Grahams "SR" and "RR" cytologic techniques is recommended for decision between irradiation and radical hysterectomy in the primary treatment of squamous carcinoma of the cervix; this has not been widely utilized because of the apparent difficulties in cytologic interpretation.

Although this fascicle, like the others, is aimed primarily at the pathologist in an effort to achieve nation-wide or perhaps world-wide uniformity in tumor nomenclature, it deserves an honored spot on the desk of everyone who treats female patients with genital tumors.

(A list of the other fascicles, by now covering much of the body, can be secured from the American Registry of Pathology, Armed Forces Institute of Pathology, Washington 25, D. C.)

Special Notices

THE DEPARTMENT OF PEDIATRICS

St. Francis Hospital, Hartford, Connecticut
will present
A PEDIATRIC SYMPOSIUM
Wednesday, November 9th and Thursday, November 10th

The program will begin at 9:30 A.M. in the Bishop McAuliffe Amphitheater and will consist of case presentations and discussions by the following guest lecturers:

Wednesday—*"Convulsions in Newborn Infants,"* Sydney S. Gellis, M.D., Boston; *"Evaluation of the Newborn,"* Helen Reardon, M.D., Philadelphia.

Thursday—*"Behavior Problems in the Schoolage Child,"* Albert J. Solnit, M.D., New Haven; *"Neurological Disturbances in Infancy and Childhood,"* Philip R. Dodge, M.D., Boston.

THE 14TH CLINICAL MEETING OF THE A.M.A.

The 14th Clinical Meeting of the American Medical Association will be held in the National Guard Armory in Washington, D. C., November 28—December 1.

Under the theme "New Developments in Old Diseases and Old Developments in New Diseases" symposia, presentations and discussions by nationally known medical authorities will aim to bring general practitioners and specialists up-to-date on the fast moving developments in all phases of medical diagnosis and treatment.

The House of Delegates will meet at the Sheraton Park Hotel and, although only delegates are permitted to speak from the floor, any member of the A.M.A. may attend the sessions.

In the reference committee meeting, any member may express himself on the issues before the committee.

In view of the desirable location of the meeting. All members of the Connecticut State Medical Society are urged to give serious consideration to attendance.

SEVENTH ANNUAL SERIES OF BAHAMAS CONFERENCES

Tenth Medical Conference—November 30th to December 10th, 1960.

Third Surgical Conference—December 28th to January 7th, 1961.

Conference on Hypertension—January 8th to January 14th, 1961.

Third Serendipity Conference—January 22nd to January 28th, 1961.

Second Allergy Conference—February 9th to February 15th, 1961.

Eleventh Medical Conference—April 3rd to April 15th, 1961.

Conference on Internal Medicine—April 30th to May 6th, 1961.

HOSPITAL OF ST. RAPHAEL PEDIATRIC CONFERENCE

Tuesday, November 22nd at 11:30 A.M.

Topic: "Differential Diagnosis in the Newborn."
Speaker: Stuart S. Stevenson, M.D., Professor of Pediatrics, Seton Hall College of Medicine, Jersey City, New Jersey.

A vine, someone said, is like the human mind—always reaching out for new things to grasp.

PROGRESS...

One way or another people will seek out new ways to cope with old problems. Yet progress must be wisely guided. One doctor says: "The desire of the public to have prepayment medical protection is so urgent that it will buy this protection from whatever plan seems most enticing. Whether you like it or not, prepayment medical care is here to stay. Let us support the system which is voluntary and over which we have adequate control." **BLUE SHIELD**

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CMS

Connecticut Medical Service, Inc.
The Blue Shield Plan for Connecticut

Federal Employees Health Benefits Program

Foreword

The corrections listed below should be incorporated in the original special issue of the C.M.S. Bulletin of July 1960.

Federal Employees Health Benefits Program

Connecticut Medical Service was informed on September 14, 1960 by the administrative agency of Group Hospitalization, Inc. in Washington, D. C. that the following changes were being made in the Schedule which was published and which was distributed to the doctors in Connecticut in July, 1960. These changes are listed below for your information:

Code	*Change*
0108	Fee under low level should be $10.00
0130	(1) Insert code "0131" before the words under local anesthesia (2) Delete "(splinter, etc.)"
0230	Add ", partial or complete"
0277	Delete code number and procedure
0470	(1) Insert code number 0471 before the word bilateral (2) Fee under low level should be $135.00
0538	Change procedure to, "Correction of bowlegs or knock-knees, unilateral or bilateral"
0556	Fee under low level should be $75.00
0563	Add ", one bone"
0565	Change to "Excision of sternal marrow"
0648	Fee under low level should be $100.00
0848	Delete code number, procedure and fees
0901	Change to "shaft, simple, closed reduction, with or without displacement"
0902	Delete code number, procedure and fees
0927	Fee under low level should be $150.00
0928	Fee under low level should be $150.00
1093	Delete the word "Synovectomy"
1187	Delete code number, procedure and fees
1345	Fee under low level should be $100.00
1346	Fee under low level should be $100.00
1621	Add ", one tendon"
2331	Add "(independent procedure)"
2361	Change "trunk" to "abdomen"
2373	Change "trunk" to "abdomen"
2385	Change "trunk" to "abdomen"
2397	Change "trunk" to "abdomen"
2409	Change code number to "2408"
2454	(1) Delete the words "per injection" and the two listed $5.00 fees (2) Add the word "initial" before unilateral, maximum
2558	Change procedure to "Ligation and division of long saphenous vein at saphenofemoral junction with or without retrograde injection, or distal interruptions, unilateral"
2647	Change parentheses to read "(single therapeutic)"
3051	Delete the words "or therapeutic"
3105	Fee under low level should be $100.00
3193	Insert the word "small" before intestine
3301	Delete code number, procedure and fees
3303	Change procedure to "Proctoscopy with biopsy, initial"
3305	Change procedure to "with removal of papillomas or polyps, initial"
3310	Change procedure to "Proctoscopy with excision or fulguration of malignant lesion"
3425	Fee under low level should be $85.00
3461	Delete code number, procedure and fees
3541	Add ", abscess or pseudo cyst"
3588	(1) Add ", initial" (2) Fee under high level should be $30.00; fee under low level should be $20.00
3621	Add ", diagnostic"
3891	Delete code number, procedure and fees
3895	Delete code number, procedure and fees
3918	Fee under low level should be $85.00
3924	Fee under low level should be $85.00.
4025	Fee under low level should be $85.00
4114	Fee under low level should be $85.00
4145	Fee under low level should be $85.00
4177	Fee under low level should be $85.00
4481	Fee under low level should be $85.00
4971	Delete code number, procedure and fees
4975	Delete code number, procedure and fees
4980	Delete code number, procedure and fees
5271	Delete "Other superficial" with the fees of $25.00 and $15.00
5279	Fee under high level should be $100.00; fee under low level should be $65.00
5412	Delete "(excludes cost of prosthesis)"
5413	Delete "(excludes cost of prosthesis)"
5414	Delete "(excludes cost of prosthesis)"
5651	Delete code number, procedure and fees
5652	Delete code number, procedure and fees
5653	Delete code number, procedure and fees
(Page 30, Item 6)	Delete the word "chronic"
7253	Add ", including one joint"
7255	Add ", including one joint"
7301	Add ", multiple positions"
7303	Add ", including one joint"

7305	Add ", including one joint"
7360	Fee should be $25.00
7363	(1) Add ", plain" (2) Fee should be $10.00
8622	Add ", photoelectric"
8658	Add " (Lee and White) "
8675	Add ", each"
8722	Add " (Malaria, etc.) "
8857	Add ", Routine"
8965	Change code number to "8966"
8957	Add "with interpretation and report"
8956	Change procedure to "Basal Metabolic Rate"

As was indicated in the special issue of the CMS Physician's Bulletin in July, 1960, CMS is acting in the capacity of Fiscal Administrator for the Federal Employees Health Benefits Program. CMS, therefore, is responsible to administer such instructions as it may receive and has no part in the development of contracts, policies and fee schedules.

A New Penicillin For Resistant Staphylococci

A new synthetic penicillin which appears to be highly effective against resistant strains of staphylococci has been developed by the Beecham Research Laboratories in England and is the subject of a series of reports in the September 3rd issue of the *British Medical Journal.* The new penicillin, which is administered parenterally, is known in Britain as "Celbenin," and will be marketed in the United States by Bristol as "Staphcillin." No generic name has yet been assigned.

On the basis of preliminary laboratory and clinical studies this new penicillin appears to be unique among all penicillins in being highly resistant to staphylococcus penicillinase—the enzyme produced by resistant staphylococci which destroys other penicillins. The new penicillin shows variable activity against other bacteria, such as streptococci and pneumococci, and in general appears to have no advantages over older penicillins in the treatment of infections by other than resistant staphylococci.

Previous experience with other antibiotics indicates that strains of staphylococci resistant to this new penicillin will eventually emerge and will increase steadily in the hospital environment. Furthermore, the new penicillin is not free of the allergenic and superinfection potential of the older penicillins.

For these reasons it is to be hoped that this important new agent will not be used for routine bacterial infections for which older oral and parenteral penicillins are effective, but will be reserved exclusively for hospital use against severe, resistant staphylococcal infections.

Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.

In Memoriam

Gray, Harry J.—Hartford; St. Louis University School of Medicine, 1921; following a period of practice in Wichita, Kansas, came to Hartford in 1931 to accept appointment as head of the otolaryngology section at the U.S. Veterans Hospital, in Newington; in 1943 he entered private practice in Hartford; he was a staff member consultant at the St. Francis Hospital, Hartford, and a diplomate of the American Board of Otolaryngology and Ophthalmology;; died after a long illness July 6 at St. Francis Hospital, aged 70 years.

Hanchett, Harry B.—Torrington; Jefferson Medical College, 1905: a native of Torrington, Dr. Hanchett practiced medicine in that community from 1916 to 1953; served as chief of staff at Charlotte Hungerford Hospital, Torrington; former president and for many years secretary-treasurer of the Litchfield County Medical Association and served as vice-president of the Connecticut State Medical Society; medical examiner for Torrington and Harwinton and also health director for Harwinton; served as president of the Torrington Medical Association in 1939 and as president of the Torrington Rotary Club, 1937; died after a long illness September 20 at his home, aged 80 years.

Johnson, Arthur A.—Columbia University College of Physicians and Surgeons, 1917; member of the attending staff and former chief of staff at Waterbury Hospital; director of surgery at the hospital for three years prior to accepting the position of chief of staff, in 1951; Dr. Johnson also was an honorary member of the staff at St. Mary's Hospital, Waterbury; he served in the Army Medical Corps in World War I and established his medical practice in Waterbury in 1919; stricken by a heart attack while making rounds at Waterbury Hospital, died September 12 at age of 70 years.

Wick, Homer C.—Hartford; Johns Hopkins University School of Medicine, 1945; deputy health director for Hartford since July, 1957; director of the maternal and child health services in Hartford and director of the Greater Hartford Home Program; received a master's degree in public health at Harvard University in 1949; died September 3 at age of 39 years.

Obituaries

Homer C. Wick, Jr., M.D.
1921 - 1960

Dr. Homer C. Wick, Jr., died on September 2, 1960 at his home in Avon, Connecticut.

Dr. Wick was born March 16, 1921 in Atlanta, Georgia. He was a graduate of St. Albans School, Washington, D. C. and attended George Washington University, Harvard College, and University of North Carolina School of Medicine. Dr. Wick also was a graduate of Johns Hopkins University School of Medicine 1945, and Harvard University School of Public Health, 1949.

His navy service included internship (1945-1946) at National Naval Medical Center, Bethesda, Maryland; two years on staff of Naval Medical Research Unit No. 3, Cairo, Egypt (1946-48); later returned to active duty (1950-51) on staff of U.S. Naval Hospital, Oakland, California.

He served as a public health physician at California State Department of Health, 1949-1950; was an instructor in public health and preventive medicine, 1950-1951 at Stanford University School of Medicine, and entered private practice in 1951-52 at San Rafael, California. He became assistant professor of public health and preventive medicine in 1952-1955 at Cornell University Medical College; and public health physician at Nassau County Department of Health at Garden City, New York 1955-56.

He joined the City of Hartford Health Department in 1957 as Deputy Director of Health. In this connection, he developed the Home Care Program and was also acting as Director of the Bureau of Maternal and Child Hygiene.

He is survived by his wife, the former Jo Ann Cox Smith, and four children Suzanne, Jennifer, Timothy, and Evie.

He was active in many community organizations and was particularly interested in teaching young boys the lore of the woods.

ALFRED L. BURGDORF, M.D.

Charles E. Vigue, M.D.
1897 - 1960

Dr. Charles E. Vigue, senior psychiatrist in charge of male patient units at the Institute of Living, died suddenly, September 10th at his home in Waterville, Maine. Funeral services were held on September 12th at Sacred Heart Church in Waterville and were attended by several of his associates at the Institute of Living.

Dr. Vigue was born August 21, 1897 in Waterville, Maine and was graduated from Colby College in 1920. He was a teacher for a number of years before studying medicine. He was graduated from George Washington University Medical School, Washington, D. C. in 1936.

Dr. Vigue began his psychiatric work at Gallinger Hospital in Washington and then moved in psychiatric residency to St. Elizabeth's Hospital in Washington. Later he became clinical director and psychiatrist at the Providence Retreat in Buffalo and came to the Institute of Living on July 1, 1942. Dr. Vigue advanced to the rank of senior physician and was placed in charge of the male units at the institute. He was recently appointed to the Social Adjustment Commission of the City of Hartford.

Dr. Vigue leaves his sister, Miss Mildred L. Vigue of Waterville, Maine.

BUSINESS, BALLOTS, AND BUREAUS

So much of the philosophy of government as represented in the following article vitally affects the doctor and the practice of medicine that it is being reprinted here in the hope that the doctors in this State will take a positive stand in any proposed legislation which will counteract the socialistic trends which are so evident in government practice today.

An Address by
Ronald Reagan

In view of the many misconceptions the public has about people in my profession, it probably seems presumptuous to some of you that I should address you on such a serious subject. We in Hollywood are well aware of the highly-colored views that our fellow citizens have about us.

Of course, we are largely responsible for this false picture of our industry and its people. Our stock-in-trade was "tinsel and make believe" and our public relations and business attitudes took on the same hues.

A few years ago we received some stern lessons in the eventual price of ignoring the business climate. We stood virtually alone and certainly misunderstood in a fight to preserve our industry from becoming another Soviet satellite. On orders of the Kremlin we were picked for infiltration. We met hard-core party organizers who attempted to take over our industry in order to subvert our screens to disseminate Communist propaganda. We won that battle and many of us today try to remain aware that it was only a battle—the war still goes on.

When the smoke had cleared, we became increasingly aware of the extent to which we were being harassed by our own government. Because we had never corrected the misconceptions about our people, had never really practiced good public relations, and had never paid any attention to our business climate, we found our part of the communications industry in this land of free speech subjected to political censorship by law in a fourth of our states and in more than two hundred cities. No election year passes but what we are investigated for something. Sometimes we manage a laugh as they approach our best comedy efforts. A few years ago a Western Senator proposed the establishment of a Congressional Committee to screen actors on the basis of their morals. Actors would be granted licenses if they passed the test; no license—no acting in pictures. We thought that one was pretty funny because at the time there were two U. S. Senators in jail and no actors.

Much has been said and written about the economic distress of the motion picture industry but little mention has been made of the part played by our own government in this trouble. In 1948 a decision was handed down in the anti-trust action that had been brought against the industry, an action that was called by one anti-trust authority in Washington "the government's greatest experiment in the vertical disintegration of an industry in the history of the Sherman Act." The result of that "experiment" in this last decade has been employment 43 per cent of its 1948 level and a wage scale reduced from one of the highest to one of the lowest.

However, we soon realized we weren't being treated as second class citizens. What was happening to us was only one facet of a larger more general problem. There has been a revolution in our times and if I could choose one word to describe the salient characteristic of that revolution I should choose the word "collectivism." There is the tendency on the part of so many of us to seek the answer to all our problems from a central government—to invest that central government with all authority.

We have asked for and received benefits and services from government until we have seen the growth of a collection of "internal powers" and bureaucratic institutions against which the individual citizen is absolutely helpless. This concentration of power under whatever name or ideology is the very essence of totalitarianism.

Is the general public solely to blame or must we assume that there are those among us who have fostered this growth of government by deliberate intent and design.

In 1927 the Socialist Raushenbush, writing in the official socialist paper, the "New Leader," urged his fellow socialists to recognize they could not hope for a revolution in America. He therefore offered a new program for promoting socialism by increasing gov-

Presented at the Annual Conference of the National Association of Blue Shield Plans, Los Angeles, April, 1960. Reprinted with permission of the National Association of Blue Shield Plans.

ernment control of business. He called his program "encroaching control." He urged socialists to place themselves in government positions and then promote government control of banks, railroads and other businesses and to start a program for government ownership of electric power. Eventually they were to work for political control and management of all key industries.

For an evaluation of Raushenbush's plan, perhaps we should heed the words, issued many years later of Norman Thomas, six-time candidate for President on the Socialist Party ticket.

Thomas said, "The American people will never knowingly vote for socialism, but, under the guise of liberalism, they will adopt TVA, social security, federal aid to education, public housing and compulsory health insurance. They will adopt every fragment of the socialist platform until one day America will be socialist without knowing how it came about."

In 1933 the Tennessee Valley Authority embarked on a program of flood and navigational control which involved the building of several dams. It was suggested that electricity be generated as a by-product of the waters impounded by the dams. This electricity could be furnished to rural areas where the scattered population made it un-economic and impractical for private industry to provide power. This certainly was in keeping with the philosophy of our Founding Fathers that government should do those things the people couldn't do for themselves. Nor was there any objection when TVA asked permission to build a few steam generating plants just to even up the production of electricity during periods of low water.

Today TVA is the biggest producer of electricity in the free world, the biggest consumer of coal in the whole world and three-fourths of all its electric power is generated by steam.

TVA owes the U. S. Treasury $1.2 billion which is supposed to be repaid out of earnings. Now, Congress has given TVA permission to finance future expansion by selling $750 million worth of bonds which shall have priority over the existing debt. In short, TVA financing is now outside the control of Congress and is, in effect, an independent business in competition with private industry which it can undersell because of its tax-free status.

What have been the results in TVA's prime objective "rural electrification?" In the TVA area rural electrification lags behind most of the rest of the country where this job is being done by privately owned utilities.

Some time ago the private utilities banded together and launched a program of institutional advertising aimed at telling their fellow citizens that the difference between TVA rates and their own higher rates was the difference between paying taxes and being tax free. The Bureau of Internal Revenue ruled they could not deduct the cost of such advertising as a legitimate business expense for tax purposes.

No one, certainly, would dispute the paying of adequate compensation to our wounded veterans. We are all agreed they deserve the finest medical and hospital care we can provide. There was little objection in the depression years to a needy veteran suffering a *non*-service connected disability being given a bed in a V. A. hospital if the bed was not needed for a veteran with a service-connected disability. Today three out of four of the more than 160,000 beds in V. A. hospitals are occupied by veterans with injuries or disease not originated by nor aggravated by military service. Indeed, there are only 40,000 hospitalized service-connected disabilities in the U. S.

Congress has liberalized the program so that counting in our 23 million veterans one out of four U. S. citizens is entitled to some measure of government-paid medical or hospital care. And this Congress is now being urged to make all people collecting Social Security eligible for government-paid medical and hospital care, a measure conservatively estimated to add billions to our yearly budget.

All of this is done in the name of real need and emergency, ignoring the fact that today 120,000,000 Americans have some form of medical and hospital *private* insurance.

Doctors and physicians who associated themselves to oppose the rising tide of socialized medicine have been informed by the Bureau of Internal Revenue, and I quote, "opposing socialization of the medical, or other segment of the economy, or supporting the principles of individual liberty and freedom of individuals in the medical profession, or elsewhere, are not, in our opinion, per se educational functions or objectives and you are not entitled to exemption of federal income tax." Do we need to spell it out any more clearly than that?

Social Security was conceived to provide that destitution would not result from the death, or unemployment or old age of a worker. It was never intended to supplant private savings, pension plans or insurance, but was to provide a foundation upon which security could be achieved. The temptation to buy elections by urging people to vote themselves a raise was irresistible to many politicians. This year, many many years before it was believed likely, Social Security payments will exceed Social Security income. In 1943 the actuarial experts (upon whose judgment the program policies are formed) predicted that Social Security "out-go" in 1957 would be $1.2 billion but, it actually came to $7 billion. It has been estimated that our obligation is $300 billion for which there is no contingency fund or collateral.

The National Education Association has abandoned all pretense that the ultimate aim is not Federal control of the school system. Their program has, naturally, been labeled "emergency" and even bears a "defense" tag. They ignore the fact that the classroom shortage has been cut drastically and that right now there are 500 colleges capable of taking an additional 200,000 students without enlarging their facilities by so much as a chair.

Most of us agreed that a program of foreign aid was a good thing to strengthen our allies. An emergency four-year $15 billion program was launched—but now it's 11 years later and more than $80 billion has been authorized. The original staff of 450 now numbers 12,000. The International Cooperation Administration, set up to handle the lending phase of the program is now duplicated by seven other agencies and two more are awaiting approval by Congress.

We adopt a program to reduce farm surpluses and then make it so financially attractive to produce a surplus that we have $9 billion worth in storage. The government owns 17½ million pounds of butter but can't use it and has to go into the market place to buy 500,000 pounds to feed our armed forces. And the Congressional Record lists the names of 2,200 individuals who this year will receive checks ranging from $10,000 to $320,000 each.

In New Mexico, citizens have rented land from the state for 25 cents an acre and then applied for and received nine dollars an acre in soil bank payments for not planting anything on this land. When this was pointed out to the Department of Agriculture, they replied that it was perfectly legal.

None of the foregoing is to say that there is not a very real problem. However, it would seem that under the guise of solving the problem some people are more interested in furthering their own ideas that government should become the "big brother" to us all.

Under the chairmanship of Herbert Hoover, a commission, appointed by two administrations, tried to evolve a program of sanity in government. They described their task as a "fantastic nightmare of working in regimented chaos." One government agency sets out to procure 40 chairs and winds up with 1,055 extra. Another declares $20 million worth of machinery and spare parts surplus and it's discovered they have gone right on ordering $20 million worth of the same material.

Last year Congress made a $22 billion mistake and all they could do was say "oops slipped." They passed a bill they had been told would effect a $10 billion saving and a few hours later discovered they had really voted to increase costs by $12 billion. They were righteously angry but no one moved to reconsider—the error stands.

At one time there were (and may still be) 101 bureaus, agencies, departments and committees in the chain of command of space and missile program.

The government *owns* and *operates* thousands of businesses (including 150 ice cream plants) at an annual cost of billions of dollars, according to a New York Congressman. These businesses enjoy a tax free status while they compete with privately owned businesses in 47 different lines.

A century ago the French philosopher De Tocqueville said: "Our democracy would last only until those in power learned they could perpetuate themselves through taxation." We have ignored the prophecy because obviously neither of our major parties has managed to hold uninterrupted sway. But perhaps we have been looking in the wrong direction. It's possible his prophecy refers to the staff of that permanent structure of government, the bureaus and agencies that go on unchanged by elections.

Some Congressmen have admitted that the permanent structure of government has grown so complicated that Congress can no longer police government activities. They must accept the word of the bureau heads as to the component's functions and budgetary needs.

Senator Byrd has estimated that there are 40 million people being supported by or receiving some form of direct cash payment from the government.

A sub-committee on Federal employment has reported back to Congress that there are almost 2½ million employees. In 1942 there was one *top-salaried* executive for every 89 government employees—today there is one for every 17. The committee further stated it found little evidence that any bureau or agency organized in answer to an emergency *ever* went out of existence even after the emergency disappeared.

More than a hundred years ago Lord MacCauley predicted that in the 20th century our democracy would end. He said, "Either a Caesar or Napoleon will seize the reins of government in his strong hands or you will be overrun and plundered by the Vandals and Huns as was ancient Rome in the 5th century. Only with this exception, those who sacked Rome came from without, yours will have been engendered by your own institutions."

The weapon of the revolution and its means of self-perpetuation has been the tax machine. It ranges from so-called regulatory taxes which cost more to collect than they produce in revenue to the countless direct and indirect taxes which make up one-quarter of the cost of an automobile, one-third of your phone bill and 27 per cent of the gas and oil you use.

Economists have told us that if our tax burden ever exceeds 25 per cent of the national income our free economy is in danger. Today 31 cents of every dollar earned goes to the tax collector and of that more than two-thirds goes to the federal government.

We have seen the income tax laws, in our lifetime, go from thirty-one words to more than four hundred and forty thousand words. These laws have become a gigantic hodge-podge of contradictions so complex that even the ordinary man in the street must get legal advice to help him compute his tax. In the higher brackets it represents a discrimination against individual effort and ability such as has never existed for any long period of time in any large-scale civilized community. Nor is there any ratio between the penalty imposed on the individual and the government need for revenue. The total revenue from all personal surtaxes is around $5½ billion and above the 50 per cent bracket, from there through the confiscatory 91 per cent ceiling, the government *grosses* less than three-quarters of one billion dollars.

This entire theory of progressive tax was spawned by Karl Marx more than 100 years ago. He gave it as the necessary basis for a socialist state.

Karl Marx said that the way to impose statism on a people, socialism on a country, was to tax the middle class out of existence. Let me call to your attention that the steepest increase of surtax rates occurs through the middle income brackets where are to be found the bulk of our small businessmen, our professional men, our key executives, our skilled workers and many of our farmers. Thirty-four per cent at $8,000 of income, 43 per cent at $12,000, and it reaches the 50 per cent mark at $16,000 of income.

We have subscribed to this philosophy on the basis that those best able to pay should relieve the modest wage earner of an unjust burden. But does it work entirely this way, or isn't it true that everyone pays taxes?

The average family income of America is around $6,000. Don't stop there, go down to the man making $3,500 a year gross with a wife and two children. Compiling his direct and indirect taxes, out of that $3,500 gross income, $1,059 will be paid in total taxes in this country.

There are those who say the answer to this man's problem is to "soak the rich" even more. Well, let's see how much leeway we have in that direction. If the Federal Government should confiscate *all* income over $6,000, the increased revenue wouldn't pay the interest on the national debt.

Some time ago I represented the Motion Picture Industry before the Ways and Means Committee urging the adoption of a tax reform measure known as the Sadlak-Herlong Bill. This was an experience akin to going over Niagara Falls in a barrel, the hard way—upstream. In a month of hearings a virtual cross section of our citizenry appeared—small businessmen's associations, chambers of commerce, local, state and national manufacturers groups, teachers, farmers and labor unions—85 per cent urged the passage of the Sadlak-Herlong Bill—100 per cent requested some kind of tax reform. *Nothing happened!* One Congressman told us the bill would never get out of committee because "it made too much sense—it cut across so many lines and benefited people so generally that Congress wasn't feeling any pressure from any particular groups."

Last November the Committee held new hearings. This time there were no volunteers. Witnesses were invited and a number of self-styled economists talked of tax reform which should close many loopholes. According to these "experts," the rich and people of high income were taking advantage of these "loopholes" to avoid paying their fair share of the tax.

You will hear a great deal more about these specific "loopholes" as the propaganda mills start grinding. Some of the loopholes turn out to be deduction of interest on mortgages and business loans, property tax, mineral and oil depletion allowances, and even state income taxes. Husbands and wives, it is recommended, should no longer be allowed to split incomes for tax purposes, and charitable contributions should not be allowed at 100 per cent. It was also suggested that capital gains be taxed as straight income. The truth is that these "loopholes" are legitimate deductions without which the tax program would long since have proven unworkable.

It seems that the main idea, according to the Ways and Means Committee, is that any tax reform must not result in the government losing one penny of its present income. This ignores the real reason for tax reform—namely the part played by government spending and the tax bite in the inflationary spiral.

We are told by a few that a little inflation is necessary to our expanding economy. True, our inflation for the last few decades has been only a few percentage points a year, but it is accompanied by a system of progressive taxation based not on the value of the dollar but on the number of dollars earned. As we earn more dollars to compensate for its shriveling value, we find ourselves in ever-higher surtax brackets. Twenty years should be a fair period over which to take a sighting on how far we have climbed on that gradual inflationary slope.

The dollar today is worth roughly half of what it was in 1939. Thus we only have to earn two for one to maintain our 1939 purchasing power. But this ignores the extra dollars we must earn because we have moved through several different surtax brackets.

If a single man earned $5,000 a year in 1939, today he must earn $14,000 to stay even and pay his increased surtax. A $10,000 a year man then, must today be a $31,000 a year man and $12,000 of that will represent his increased income tax.

That individual who in 1939 had reached the $50,000 plateau must earn $335,000 to have the same purchasing power and of that amount $240,000 will be the increase in the government's share.

Does anyone care to project this same rate of inflation and our tax rates a few years ahead and even pretend to believe that private enterprise can continue? By 1975 the $5,000 man in our first example will have to earn $33,000 and the $50,000 man will have to earn $835,000.

We've talked about our $295 billion debt so long we no longer really comprehend its staggering size. Perhaps we should turn back to primary arithmetic "2 apples + 2 oranges" and get a visual picture of it. If I had a stack of $1,000 bills here four inches high, I'd be a millionaire. The National Debt would form a stack of $1,000 bills more than eighteen miles high. With this picture in mind, would you care to add the public debt we owe through local and state bonds, and then toss in the $300 billion Social Security obligation?

Those who sup at the public trough have always fared better in an atmosphere of crisis and emergency. In such times they can excuse extravagance on the grounds of defense needs. Is there sincerity beyond question? Since 1954 defense spending has decreased more than a billion dollars while *non*-defense government expenditures have increased more than $10 billion.

The dangers our country faces are not all external. We are menaced by a two-pronged attack, and it is our responsibility to see that our freedom is not sacrificed from within—lost by default.

Communism's greatest asset is ignorance of their tactics, strategy and objectives. For men in high office to remain in such ignorance is irresponsibility bordering on treason, for the Communists have spelled out their warnings over and over again. Lenin, the interpreter of Marx, has said, "The way to destroy capitalism is to debauch the currency. Through a continuing process of inflation a government can quietly and unobservedly confiscate the wealth of its citizens."

In 1923 he further said, ". . . first we will take Eastern Europe, than we will organize the masses of Asia and finally the United States, the last bastion of capitalism, will be surrounded and we will not have to take it. It will fall into our outstretched hands like over-ripe fruit."

More recently, in answer to a direct question from an American reporter as to the 15-year future of the cold war, Mr. Khrushchev said, "In 15 years there won't be a cold war. Your country is becoming so socialistic that in 15 years the causes for conflict between our two countries will have disappeared."

To those who say that we are sacrificing a strong defense on the altar of a balanced budget, our answer should be, "individual liberty, freedom and our free enterprise system are the prime sources of our strength." There can be little security any place in the free world if there is not economic stability within the United States.

Our free-enterprise democracy is the greatest system ever evolved by man, but it is dependent on one controlling factor—the solvency of our government and the stability of our currency.

What to do? Edmund Burke once said, "For evil to triumph it is only necessary for good men to do nothing."

Perhaps what we need is a new Declaration of Independence. If this is the case, we will do well to keep the spirit and intent of one of the grievances of the original Declaration; "He (George III) has erected a multitude of new offices and has sent hither swarms of officers to harass our people and eat out their substance."

In this election year we cannot stop the advance of socialism by electing men who are dedicated to socialist goals but who get our votes only because they intend to take longer in arriving at those goals. We must once again use the challenge of Revolutionary War days and ask of each candidate, with regard to government spending, "Where do you stand, Sir?"

Our two-party system, the bulwark of our democracy is meaningless if we allow policy to be determined by *bureaus* rather than those chosen by *ballot* —bureaus frozen into permanency by civil service regulations, bureaus beyond the reach of any election.

We must end deficit spending and reduce the fodder upon which government has fed and grown beyond the consent of the governed. Short-term negotiable bonds are as inflationary as greenbacks ground out on government printing presses.

A measure of the nation's soundness is in the peoples' attitude toward speculation and thrift. But who can advocate thrift today? One hundred dollars invested in a three per cent bond 20 years ago (not bad at the time) is today worth $175.00. However, that $175 will buy 357 fewer loaves of bread than the $100 would 20 years ago.

When the budget for fiscal 1959 was discussed, we were in a recession; and it was apparent that the government's revenue would, as a result, be decreased. Some "old-fashioned" representatives on both sides of the aisle felt that government spending should stay within government income. To this end they proposed budget cuts, totaling $5½ billion.

The Chairman of the Appropriations Committee said: "All of these cuts were in the area of useless fat and hadn't scratched a single muscle fibre of the government's programs." But deficit spending was more attractive to Congress politically than the obvious upsurge which would have followed tax reform and economy. So Congress indulged in what some of its own members called "the most profligate spending orgy in the history of our nation." They spent $13 billion more than the government received.

All of this was done in the name of the twin emergencies, "defense" and "anti-recession." But was this true? Not according to the one man who should know—Maurice Stans, Director of the Budget. In announcing the deficit he said none of it was for anti-recession measures nor did it represent increased spending for defense.

It is ironic that we must wage the fight against excessive spending by defending a staggering budget of $78 billion. Senator Byrd has said that this budget could be reduced to $65 billion without impairing a single government program. The big spenders are so entrenched, however, that we hear talk of a budget in excess of $80 billion and some have called for $100 billion budget within five years!

When you are challenged that any budget cuts would mean the elimination of some government programs, don't be tempted into the trap of which programs should be kept and which ones should be dropped. Senator Byrd's $65 billion estimate was based on keeping all our present programs but eliminating waste in their administration. This can only be accomplished by demanding tax reform.

We will be told we can't reduce taxes until we reduce government expenditures—this is dishonest! No government in history has ever voluntarily reduced itself in size. Government doesn't tax to get the money it needs—government will always *need* the money it gets.

Mankind has known but a few moments of freedom in its entire history. Most of those moments have been ours. But, this freedom is never more than one generation away from extinction. Can we honestly say ours is still unimpaired?

In Ohio, people of the Amish faith, who have as a tenet of their religion that they cannot accept any pension or payment from government, had their possessions seized and their cattle sold at auction to force their payment of Social Security dues—even though they cannot accept Social Security pensions when they come due.

A Michigan farmer named Yankus has the dubious distinction of being the first American to leave these shores in search of freedom. Evetts Haley, Jr., a former Texas University professor, is fined $4,000 for raising wheat and feeding it to his own cattle. Upheld by a judge, the government appeals and the Supreme Court reverses the lower court's decision, ruling that an agency of the government has the right to tell an American farmer what he can raise on his own land for his own use.

We are close to the point of no return. Close to the goal of socialism where we find ourselves so deeply committed to socialistic practices that we dare not face the upheaval of reversing our course. Close to the point where we unhappily and resignedly slide all the way into socialism rather than brave the storm.

Ours has been called a generation having a rendezvous with destiny. We must meet the challenge *now,* or spend our later years telling our children and our children's children what it once was like when men were free.

Gout More Prevalent in Women Than Generally Believed

The incidence of gout in women has been found to be "considerably higher" than generally believed in a recent study.

Gout is a disease characterized by a painful inflammation of the joints of the hands and feet. It is caused by the accumulation of uric acid in the blood.

The study was based on 74 cases of gouty arthritis seen at two large Detroit hospitals, Detroit Receiving and Wayne County General, during the past four years.

Writing in the current Archives of Internal Medicine, published by the American Medical Association, four researchers said gout is generally considered to be a disease primarily affecting the middle-aged white man.

However, they said 19 of the 74 patients were women and 45 of the 74 were negroes.

"In our experience, gouty arthritis is a relatively common disease which can strike both negro and white, man and woman," they concluded.

"No significant racial differences in the incidence of gout were noted when the figures were compared to statistics for hospital admissions.

"The incidence of gout in women was found to be considerably higher than is usually reported."

The authors of the article are Rachel E. Turner, M.R.C.S., L.R.P.C.; Martin J. Frank, M.D.; Dorothy Van Ausdal, M.D., and Alfred Jay Bollet, M.D.

WILLIAM C. McGUIRE, M.D.

Born in New Haven, Connecticut, March 6, 1887.

Died in New Haven, Connecticut, June 15, 1952.

M.D., Yale University School of Medicine, June 1909.

Internship: St. Vincent's Hospital, New York, New York, 1909-1912. New York Foundling Hospital, New York, New York, 1912-1913.

ACADEMIC APPOINTMENTS: Yale University School of Medicine

- Clinical Assistant in Medicine, 1914.
- Clinical Assistant in Medicine and Pediatrics, 1915.
- Clinical Assistant in Pediatrics, 1916.
- Assistant Clinical Professor of Pediatrics, 1928.
- Associate Clinical Professor of Pediatrics, 1932.
- Clinical Professor of Pediatrics, 1942 to June 15, 1952.

HOSPITAL APPOINTMENTS:

- Attending Pediatrician, New Haven Hospital
- Attending Pediatrician, Hospital of St. Raphael
- Chief, Department of Pediatrics, Hospital of St. Raphael

Diplomate, American Board of Pediatrics

President, New Haven Medical Association, 1951

President, Hospital of St. Raphael Medical Staff, 1938

United States Army Medical Corps 1917-18, attached to the Medical Corps of the British Expeditionary Forces.

Commissioner of the New Haven Board of Health

Chairman, Health Division, Council of Social Agencies

President, Wilsonian Professional Men's Club

MEDICAL SOCIETIES:

- American Medical Association
- Connecticut State Medical Society
- New Haven County Medical Association
- New Haven Medical Association
- Hezekiah Beardsley Pediatric Society
- New Haven Pediatric Society
- New England Pediatric Society
- American Academy of Pediatrics

William C. McGuire, M.D.
1887-1952

An Appreciation . . .

WILLIAM C. McGUIRE, M.D.

1887 - 1952

If you stop to be kind, you must swerve often from your path, so when folks tell me of this great man and that great man, I think to myself, who was stinted of joy for his glory? How many old folks and children did his coach wheels go over? What bridal lacked his song, and what mourner his tears, that he found time to climb so high? "(Mary Webb)".

Of "Bill" McGuire more than any other person I have ever known, could it be said he often swerved from his path to be kind; no one was ever stinted of joy for his glory; his coach crushed no one but instead bore him devotedly on countless missions of comfort and healing; no mourner lacked his tears and no worthy endeavor his song. Nevertheless he climbed high in the esteem of his community, his profession, his church; he was kind and compassionate, and also competent, skilled and practical.

I took "Bill" McGuire's measure as a man of integrity and honesty early in our acquaintance. He asked me to see in consultation a child very ill with scarlet fever. After examining the patient we stepped into an adjoining room for conference, and I was obliged in great embarrassment to tell my colleague that I thought the patient had serum sickness, not scarlet fever. He agreed at once recalling the forgotten injection of tetanus antitoxin which he had administered. Dr. McGuire then asked me to come with him to report to the family. He announced with perfect simplicity and with complete candor and without excuse his error; and the only embarrassed person present was myself. As a matter of fact, Dr. McGuire was a very skilled dianostician; it was a tradition of the pediatric staff of the New Haven Hospital to act in line with Dr. McGuire's admission diagnosis and do any questioning afterward. He was usually correct.

It was also a tradition with our staff that no one ever knew when Doctor McGuire saw his patients—midday or midnight, in home or in hospital or in office; but see them he did, and the charge we learned was very modest, probably unreasonably so.

I never knew who Dr. McGuires' non-medical friends were but they must have been numerous and rich in devotion and confidence judged by his effective interest and concern in numerous community activities both secular and religious.

"Bill" McGuire was largely responsible for establishing as an entity the pediatric service of the Hospital of Saint Rapheal. It is appropriate that the record of the conference on allergy in children sponsored by this pediatric group be dedicated to the memory of its founding father.

"Nothing is so strong as gentleness; nothing so gentle as real strength" (deSales); this might be our farewell to this dear and gracious colleague.

Grover F. Powers, M.D.

THE NATURE OF THE ALLERGIC REACTION

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I wish to start with the statement that allergy is not a disease; it is simply an altered reactivity of the tissues of the different organs of the system brought about by a previous contact with the same foreign pathogenic substances.

Three groups of foreign substances are responsible for such an altered reaction. The first group consists of foreign protein. This is a dead substance which does not multiply. The second group is composed of a pathogenic microorganism (bacteria and viruses). They are alive and able to multiply. They either produce and secrete a toxic substance (Exotoxin) or contain a toxic substance in their body which is set free by their destruction, called Endotoxin. A third group of substances are chemicals, foreign to our organism, which combine with the protein of our organism and, acting like a foreign protein, must be eliminated. These substances are handled like substances of the first group and can therefore be included in the first group.

What these three groups have in common is that when they are injected into the organism for the first time, they produce no immediate reaction, but the first symptoms appear after a certain incubation time. If the same substances are injected a second time or more frequently, the symptoms of the reaction appear either after a shorter incubation time or immediately. It is clear that what has changed is not the injected substance but the reaction of the organism. The incubation time observed in the case of the first injection was necessary for the creation of antibodies, whose function consists of eliminating the foreign substance. These antibodies, once established, stay in the organism for a certain length of time, ready to destroy the foreign substance immediately should it reenter the organism a second or more times. After the elapse of a longer period of time the antibodies disappear, but the organism can now rebuild these antibodies more quickly than it could previously. The incubation time has been shortened; the reaction is accelerated. The reaction is the effect of interaction between antigen and antibodies. The occurrence of an immediate or accelerated reaction has a diagnostic value. It indicates that the foreign substance has already been in contact with the organism. Therefore this altered reactivity is the basis for using the allergic reaction as a test to learn whether there has been a previous contact with the pathogenic substance. The test is a by-product of Pirquet's discovery. He used it for the diagnosis of tuberculosis. The importance of this test for the fight against tuberculosis is known to every physician. The testing of individuals for their sensitiveness to allergens is a well known tool of the allergist. His interest lies in the allergies against protein, which is only a small part of allergy. His field concerns the treatment of food allergy, hay fever, asthma, skin manifestations and eczema due to allergy. Pirquet made his first observation leading to his discovery of allergy, while studying serum sickness, an artificial "iatrogenic disease" which does not exist under natural conditions. Pirquet concentrated his interest on the study of the reaction of the organism in its fight against our real enemies, the bacteria and viruses. He selected as paradigma also an artificial disease, the vaccination against smallpox. Here he again found the existence of all the fundamental laws of altered reactivity; the immediate and accelerated reaction. In eliminating foreign protein through antibodies the reaction is altered, but no immunity is established. The reactions are intensified. In bacterial and virus infections immediate and accelerated reactions are advantageous; the invading germ is more quickly destroyed and therefore its damaging effect is more rapidly terminated. Immunity is the result of this action of the antibodies. In protein allergy *no* immunity follows the repeated exposures. The allergist treats protein allergy by desensitization.

Many experimental facts (passive transfer, reversed serum disease, etc.), support the theory that allergic reactions are the effect of interaction between antigen and antibodies.

There are many other concepts concerning the pathogenesis of allergic and anaphylactic reactions. One of the theories advocated by French investigators (*Villaret, Vallery-Radot* and others) is to the effect that the symptoms of allergy may depend upon an excess of acetylcholine or upon some disturbance in its normal breakdown by the choline esterase. Urbach contends that acetylcholine and

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similar substances are formed as the end results and not immediately by the interaction of antigen-antibody. Substances which appear during this interaction liberate histamine from the cell. Histamine is one of the substances found in the allergic process, particularly in protein allergy. Halpern made many experiments showing the liberation of histamine in protein allergy.

Doerr is the outstanding champion of the physical theory as the basis of anaphylactic shock. He assumes that the antigens and antibodies, substances of high molecular weight, react on the cell membrane but do not penetrate it. As a consequence, physical-chemical changes are instituted which act as an irritant to the cell. According to Bronfenbrenner the interaction between antigen and antibody serves to disturb the delicate adjustment of the colloidal conditions existing in the serum as well as at the surface of the tissue cells. Widal looks upon anaphylactic shock as representing a disturbance of the colloidal balance. He and his school designate the changes of the colloids in the blood observed during attacks as "hemoclastic crisis" and those in the tissues as colloidoclasia. Lumiere on the contrary explains the nature of anaphylactic phenomena on the basis of invisible flocculation occurring in the blood stream of allergic individuals as the result of the encounter between antigen and serum antibody. In support of his views he cites the fact that in vitro flocculation follows the mixture of the antigen with the serum of allergic individuals.

All these various theories may have an important bearing in explaining the anaphylactic shock, but cannot be applied as an explanation for all allergic phenomena. For the study of the reactions in protein allergy the classical experimental animal, the guinea pig, is used, and less frequently the rabbit.

The theory that the interaction of antigen and antibody is the cause of the allergic reaction, as published in our "Serumdisease" is still the most satisfactory explanation of the mechanism of allergy. The theory is now more than 50 years old.

The acceptance of the role played by histamine has had an effect upon the treatment of allergy to protein. Many of the antihistamine drugs, among them Benadryl, Phenergan etc., are in use. Our theory also led to the use of cortisone and ACTH. These drugs are particularly effective in dangerous situations. The importance of allergy for clinical medicine is still very great. Nephritis, nephrosis, rheumatic infection, lupus erythematosis and many other diseases have allergic features.

Some details of observations that have been made are difficult to explain, as for example the fact that it is impossible to produce a positive tuberculin reaction by repeated injections of tuberculin. Only by establishing an infection with living tubercle bacilli or by an injection of dead bacilli can a positive reaction be created.

An extended use of ACTH or Cortisone in the treatment of allergic conditions is dangerous. These substances interfere with the interaction of antigen and antibodies, and therefore with immunity against infection. Therefore antibiotics must be given during cortisone therapy. Peshkin observed that in seven cases of intractable asthma, treated for a long time with cortisone, sudden death occurred after an insignificant respiratory infection. At autopsy a complete destruction of the adrenal cortex was found.

Of great interest is the beneficial effect of cortisone upon nephrosis. As nephrosis develops on an allergic basis, one is tempted to theorize that the improvement is due to an interference with the antigen-antibody interaction. The same theory could explain the beneficial effect of measles and malaria upon nephrosis. If we assume that during measles and malaria larger amounts of cortisone are produced and enter the circulation, the influence of these diseases upon nephrosis loses its mystery. This theory should be studied. I asked Dr. Selye whether such an increase of cortisone production exists during measles and other infectious diseases. His answer was yes. The quantity and its duration is variable and must be investigated.

Measles has also a peculiar influence upon the tuberculin reaction, infectious diseases and inflammatory reactions. The positive tuberculin reaction becomes negative at the height of measles. Measles improves eczema, stops the development of chickenpox, clears up the purulent cerebrospinal fluid in meningitis and dries up other purulent manifestations (otitis). Measles damages the resistance of the organism against infections (tuberculosis, respiratory infections). All these observations deserve investigation with my theory of cortisone and steroid effect in mind.

THE ALLERGIC INDEX: A PRACTICAL ADVANCE IN THE DIAGNOSIS OF ALLERGIC DISEASE

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Among the many factors which unnecessarily complicate the treatment of allergic disease, one of the most evident is that an unfortunately large number of patients with allergy do not receive the treatment they require until the disease has progressed from a relatively simple manifestation to an entrenched and complex condition. The results are sometimes tragic and almost always distressing to both the patient and the physician. This is particularly frustrating because in almost every instance earlier treatment would have been simpler, more fruitful, far less costly and less time-consuming.

There are many reasons for this unfortunate state, some functioning in the physician's office, some in the home of the patient. Probably the most important is the simple fact that many instances of allergic disease are not recognized by the physician for what they are. Respiratory infections are everyday occurrences, gastrointestinal disturbances are a common part of the process of growing up, and transient dermatoses are usually not worthy of too much concern. All too often, however, these simple pediatric problems signal an underlying state of allergy which may remain with the patient for the rest of his life.

I should like to emphasize here that it is primarily the pediatrician (as well as the general practitioner whose practice includes many children) who can play such a major role in recognizing and treating allergy. This is so because the first manifestations of allergy most often occur in childhood, and because it is the pediatric-oriented physician who is most likely to deal most often with this type of "minor" problem.

Another governing factor in this area is that many physicians, either by training or by inclination, are not sufficiently equipped to deal with the allergic syndrome in all its complexity. Training in allergy in medical schools today is woefully inadequate, perhaps only 40 per cent of the schools having placed more than minor emphasis on the subject.

A recent survey by Aldrich, not yet published, points up the practical importance of this inadequacy to the practicing pediatrician. Questionnaires were sent to a random selection of one-fourth of all pediatricians listed in the 9th Edition of the American Pediatric Directory. There were 1,227 respondents (61.4 per cent of those questioned). One startling result of this survey was developed from the answers to the question: "If you had the opportunity for additional training today in pediatrics, what areas would you select?" 40.1 per cent of Board Certified Pediatricians and 44.9 per cent of those not certified (a total of 41.2 per cent) listed Allergy as one area in which they felt the need for additional training. This was significantly greater than those physicians who indicated the need for further training either in Psychiatry (26.5 per cent) or in Behavior Disorders (19.6 per cent), two areas of medicine which have been the subject of considerable study in recent years. Allergy was ranked eighth in importance in a listing by all respondents of areas of "medical training considered appropriate today." In contrast, Allergy was ranked quite low (28th) on the list of those subjects which physicians felt received "much emphasis" in their original medical training. The survey reflects the view of a relatively young group of practicing pediatricians, Certified and not certified, 70 per cent having received their training during the past 20 years and 60 per cent having started private practice during the past 15 years.

Thus, many graduating physicians start their professional life without ever having been near an allergy clinic, without being at all aware of the chronic nature of allergy, without any intimation of the continuing, long-term interest and treatment necessary to deal with it successfully.

Added to this, and perhaps more often than not a result of it, is the fact that physicians are sometimes not eager to start treating a chronic condition whose symptoms may shift (in nature as well as severity) from month to month or season to season without any seeming relation to the treatment or lack of it. Further, allergy is a disease about which much remains to be learned. How much simpler it seems to put one's trust in "medication

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by mouth"—palliative measures which do sometimes bring relief.

Often the physician finds himself unwilling to admit that he is faced with a case of allergy, sometimes from a creditable desire to minimize the condition and avoid frightening the patient or the patient's family, sometimes from an understandable lack of faith in his own knowledge of the disease. Thus, on a conscious or unconscious level, numerous factors are operating which too often hinder the early diagnosis and treatment of allergy.

Over the years, the author has observed many unusual signs and symptoms of early allergy which can become manifest in different cases at different times. Although it is the skin and respiratory tract which are most frequently involved in children with allergy, any other organ system of the body may reflect allergic illness. The child may present a series of varying illnesses during infancy and childhood, some clearly allergic in nature, others not easily identified. The inadequately trained physician will often treat the presenting illness without any awareness of its essentially allergic nature.

The problem, then, is early diagnosis of allergy through early recognition of symptoms. In order to facilitate such recognition, the author has devised an "Allergic Index"—an empirical guide which, if used correctly, will result in the institution of appropriate treatment at the time when it can be most successful.

Not only can the Allergic Index serve to simplify and systemize the early diagnosis of allergy, it also permits the physician to render a diagnosis based on a group of symptoms which may include rare or atypical allergic manifestations. Table I lists the major and minor symptoms of allergy. Each has been assigned a numerical weight-value based on its prevalence, frequency, likelihood of recurrence, relation to other symptoms, familial patterns, etc. Experience has shown *that an Allergic Index,* i.e., a numerical total, of *five or more units is a definitive signal for a thorough allergic diagnostic work-up* followed by appropriate therapeutic and prophylactic measures.

The following case histories from the files of the author will demonstrate the practical value of the Allergic Index:

CASE NO. 1

G. G., male, age at first consultation in January 1959 was almost six years. No indication of allergic history in either parent. Since his second year, this child had experienced almost continuous colds during the winter months. During his third year, colds were accompanied by bleeding from the right nostril. In May of his fifth year the child developed a spasmodic croupy cough accompanied by nasal stuffiness, as well as tracheobronchitis with much tracheal clearing, which persisted spasmodically up to the time of the first consultation. There were also two episodes of urticaria.

TABLE I
ALLERGIC INDEX, TABLE OF SYMPTOM-WEIGHT VALUES

SYMPTOM	UNIT WEIGHT
Heredity	
Bilateral Inheritance	2
Unilateral Inheritance	1
Bronchial Asthma	5
Colic	1
Chronic Gastroenteritis of Allergic Etiology	1
Infantile Allergic Dermatitis	3
Asthmatic Bronchitis (Bronchitis with Expiratory Wheezing)	
One Attack	1
Two Attacks	2
Three or More Attacks	5
Tonsillectomy and Adenoidectomy Twice or More	3
Pollinosis	
One Season	2
Two or More Pollinosis Seasons	3
Recurrent Upper Respiratory Infections	1
If associated with perennial allergic rhinitis or seasonal repetition	2
Perennial Allergic Rhinitis	2
Chronic Allergic Cough (Repeated Tracheobronchitis)	2
Allergic Conjunctivitis	1
Croup, Recurrent	1
Bronchiolitis, Two or More Episodes	1
Paroxysmal Sneezing	1
Urticaria	1
Tracheal Clearing, Recurrent	½
Visceral Pain Syndromes, Including Pylorospasm	½
Drug Allergy, Including Henoch's Purpura	½
Migraine	½
Epistaxis, Recurrent	½
Idiopathic Hematuria	½
Canker Sores	½

Any of these symptoms, even though given a relatively low unit value in the Allergic Index, may of and by themselves indicate a significant allergy, requiring *appropriate study and treatment;* if they manifest themselves to a severe degree or if they tend to *recur with frequency.*

A complete diagnostic study recorded positive reactions to short and giant ragweed, cat and dog dander, dust, mixed feathers, timothy, red top, orchard and June grasses. Hyposensitization therapy was begun.

This child was fortunate in that his allergy was diagnosed and treated before permanent damage had occurred. Even so, earlier recognition of the basic allergic nature of his condition would have avoided the distress suffered by him and his family. Because of the persistent tracheobronchitis, the child found himself ostracized by other children as well as by adults. On many occasions his school nurse sent him home with instructions for him to be taken to a doctor, his teachers did not want him in their classes because his condition disrupted their teaching, other children refused to play with him for fear of "catching something."

Viewed with the Allergic Index in hand, the nature of this child's illness becomes apparent. Repeated upper respiratory infections, recurring seasonally, gives two units on the Index. Episodes of epistaxis adds $\frac{1}{2}$ unit, and the tracheobronchitis adds two units. Urticaria adds another unit, giving a total of $5\frac{1}{2}$ units.

CASE NO. 2

E. D., male, age at first consultation in September 1958 was nine years. This was an adopted child, thus we were not able to elicit any information on parental allergy. From birth on, this child has had a great deal of nasal stuffiness and many febrile and afebrile respiratory infections (two units). In the Spring of 1955, increased sneezing was noted (one unit), and this was followed by an asthmatic episode which recurred at odd intervals (five units). The asthma was treated symptomatically. The child also had a mild rash of approximately two years' duration on his arms and face (three units).

A complete allergic diagnostic study recorded positive reactions to short and giant ragweed, dust, all grasses, horse dander, dust, mixed feathers, and the following trees: oak, ash, birch, elm, and maple.

Here is a child who, for two years, exhibited the classic allergic triad of dermatitis, rhinitis, and asthma—yet, during those same two years, the child's illnesses were treated only symptomatically and allergy was not diagnosed. One is tempted even to question the value of the Allergic Index in such a situation.

CASE NO. 3

G. M., female, age at first consultation in November 1958 was 20 months. Both parents gave a history of allergy: the father, perennial allergic rhinitis, grass and ragweed hay fever, and asthma; the mother, perennial allergic rhinitis and grass hayfever. The patient had exhibited infantile allergic dermatitis from 10 days of age until she was four months old. In addition, severe nasal congestion with frequent colds and continuous watery or yellow-green secretion had been present from birth onward. A series of pediatricians had prescribed topical medications—nosedrops, antihistamines and antibiotics—without achieving positive results.

Skin-testing (scratch and intradermal) showed positive reactions to citrus fruit, banana, chocolate, celery, house dust, chicken, beef, pea, tomato, milk, egg white, rice, corn meal, wheat, short and giant ragweed, timothy, red top, orchard and June grasses, and the following trees: oak, ash, birch, and maple.

This case offers a dramatic example of an obviously allergic child allowed to go for 20 months without proper treatment. Use of the Allergic Index would have disclosed the allergic nature of the condition at the age of 10 days (bilateral inheritance—two units, allergic dermatitis—three units) even if we were to ignore the severe and continuous nasal congestion (see footnote, Table I). The child was in physical and emotional distress from the day of her birth; "medication by mouth" had failed even to provide palliative relief. Fortunately, hyposensitization therapy proved successful and the child's nasal passages are now clear and clean. And she is no longer referred to as "snot-nose" by her elder sister.

CASE NO. 4

K. J., male, age at first consultation in June 1957 was 10 months. Mother had hayfever. This child was presented with a severe dermatitic condition of the perianal region which had been diagnosed as diaper rash. Previous treatment with both topical and systemic medications had been unsuccessful. The child's history revealed multiple ear infections (primarily in the left ear) accompanied by high fever from early infancy. These had been treated with antibiotics and large doses of aspirin. The mother, a well-read woman of intelligence, had had a great deal of anxiety regarding potentially harmful side effects. The dermatitis was cleared within 10 days of taking the child off milk and egg and placing him on a milk-substitute. The child was not seen again until February 1960 when intervening history revealed the following: frequent colds and prolonged nasal stuffiness at 18 months; development of hay fever symptoms at two years; continuation of nasal congestion and colds during third winter; two episodes of wheezing in January 1960, the second labeled "allergic bronchitis," and a third episode of wheezing the following month.

This case can be cited as an example of unwillingness to admit to the presence of allergy, on the part of both a skillful pediatrician and intelligent parents. Allergic diagnostic studies confirmed the already obvious: the child was positive to wheat, milk, egg white, tomato, pea, stringbean, carrot, citrus fruit, chocolate and dog dander. More to the point, however, is the fact that even with a history of severe allergic dermatitis, it took three episodes of wheezing before the help of an allergist was sought. The Allergic Index itself may or may not have been useful in this case, but perhaps we may assume that the perspective of allergy it offers to the alert physician, and the resultant focusing on the relationship between symptom and appropriate treatment, may have avoided some of the pain and distress and given this child a healthier, happier early life.

The emotional and physical toll which untreated allergy can exact may be largely prevented, even by the physician untrained in allergy, through the use of the Allergic Index. If adequate skin-testing and hyposensitization can be instituted in childhood, when the earliest signs appear, the patient may be given the greatest possible chance to live a normal, healthy life.

The Allergic Index is not merely a clinical slide-rule, to be used without regard for the patient. On the contrary, it offers the physician an opportunity to institute holistic therapy, to treat the allergic syndrome within the framework of the complete patient. The Index orients the physician to allergy, an orientation from which specific diagnostic and therapeutic procedures follow logically. A pattern of symptoms is recognized. A relationship between syndrome and treatment is established. The patient's prognosis brightens. This is the most important aspect of the Allergic Index.

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THE DIFFERENTIAL DIAGNOSIS OF ATOPIC AND SEBORRHEIC DERMATITIS

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One of the common disorders encountered by physicians caring for children, whether general practitioner or pediatrician, is the variety of skin diseases. These constitute problems to which insufficient attention is paid during training in the medical school and in the hospital where little emphasis is placed upon dermatology and allergy. The physician entering practice in the present state of pediatric training is much better equipped to manage such diseases as diabetes or cystic fibrosis of the pancreas, for example, than he is to diagnose and treat Mrs. Jones' baby who has a rash. However, because of the frequency with which these disorders occur, they involve a disproportionately large number of the physician's patients and are often encountered starting the first day of practice. On the other hand, years may go by before he encounters one of the other diseases, as those previously mentioned, for which he has been so thoroughly trained.

To the inexperienced, and not too infrequently even to the experienced, many of the dermatoses encountered in infancy and childhood appear very similar and are commonly diagnosed as "eczema." In the course of time the interested physician gradually learns the distinguishing features so important for their proper diagnosis and treatment. Some of these diseases may be due to allergy and some are not.

Cutaneous disorders due to or resembling those produced by allergy or possibly of allergic origin may be simply and conveniently classified as follows:

I. The eczematoid dermatoses
II. Urticaria and angioedema
III. Drug eruptions
IV. Physical allergies
V. Allergic purpura
VI. The exanthematoses

While the exanthematous diseases, measles and scarlet fever, particularly, are, at least in part, specific allergic reactions to specific infections, they are not ordinarily considered in terms of allergic dermatoses and are mentioned here only for the sake of interest and completeness.

VII. Miscellaneous. Here may be included the skin manifestations of various collagen diseases such as disseminated lupus erythematous, dermatomyositis, periarteritis nodosa, etc. Also included are noncollagen diseases such as geographical tongue, some cases of aphthous stomatitis and possibly some other forms of mucous membrane involvement.

The eczematoid dermatoses, the skin diseases which look like "eczema" may be further subdivided into the following:—

I. Atopic dermatitis.
II. Seborrheic dermatitis—not an allergic disease but extremely important in differential diagnosis from atopic dermatitis.
III. Contact dermatitis.
IV. Eczematoid dermatoses of bacterial origin.
  A. Fungus. infections; epidermophytids.
  B. Non-fungus. infections; bacterids.
V. Nummular eczema.
VI. Circumscribed neurodermatitis.
VII. Combinations of any or all of the above.

The two groups of classifications above are modified from those of Sulzberger[1] and Hill.[2]

Atopic dermatitis is the *most important* skin disease of infancy and childhood. Seborrheic dermatitis is the *most common* and this discussion will be limited to a consideration of the differential diagnosis of these two diseases.

The importance of making a differential diagnosis between atopic dermatitis and seborrheic dermatitis is first with respect to prognosis and second with respect to study and treatment. Only 25 per cent of patients with seborrheic dermatitis ultimately develop subsequent allergic diseases as compared with 80 per cent of patients with atopic dermatitis.[9] This is a high figure which has been severely criticized but in working this out two diseases were included which had not previously been considered in studies of this character. These are perennial allergic rhinitis and the recurrent upper respiratory disorder which today are well recognized as allergic entities.

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So far as study is concerned, the patient who has only seborrheic dermatitis need not be subjected to investigation from the standpoint of allergy because seborrheic dermatitis is not an allergic disease. This saves considerable time and trouble for both the physician and the patient who is also spared considerable expense. While local treatment of the two disorders may be largely the same, skin tests, elimination diets and specific injection therapy have no place in the treatment of seborrheic dermatitis. The etiology of seborrheic dermatitis is unknown but infection of some type or some unknown metabolic disturbance are the most commonly advanced theories.

ATOPIC DERMATITIS

When the well-informed physician presently uses the term "eczema" he commonly means atopic dermatitis. It is very difficult to define this disease. Hebra, who was the father of modern dermatology, was once asked the best definition of this subject and is said to have replied, "Well, eczema is what looks like eczema,"[3] and even today Sulzberger[4] thinks that this is not too bad a definition. However, if one wishes to have a very complete definition, that of Wise and Wolfe[5] is very adequate. This is to the effect that eczematous eruptions are characterized by polymorphous lesions consisting of erythema, scaling, papules and at times lichinification accompanied by more or less itching. It is a reaction form, an allergic response on the part of a susceptible individual to something to which he is sensitive.

Atopic dermatitis, according to Sulzberger[6] results primarily from a subclinical urticarial reaction with the blood vessels of the upper vascular layer of the skin as the shock organ. As a result of this and the accompanying pruritis the epidermis may become eczematized which indicates specifically the occurrence of interstitial edema and spongiosis (intracellular edema) and vesiculation which occurs when the edema fluid collects between the cells. Eczematization may occur not only in atopic dermatitis, but also in contact dermatitis, nummular eczema, intertrigo, some skin infections and some primarily irritant dermatitides.

The pathological physiology of all allergic diseases is the same; edema or spasm of smooth muscle or both occurring together. The clinical manifestations depend upon the tissue involved. It is quite likely that the basic abnormality of physiology is only edema and that the spasm of the smooth muscle is secondary to the edema of the muscle.

In atopic dermatitis the fundamental abnormality of physiology is edema. The first stage is congestion of the end vessels of the skin causing "simple red eczema." If the congestion continues at the same level the increase in the nutrition of the skin causes hypertrophy with exaggeration of the normal markings, which is called lichinification. If, on the other hand, congestion increases it is followed by exudation with formation of minute vesicles, which ordinarily cannot be seen by the naked eye, and papules. If the vesicles coalesce and rupture there is exudation of serum, "weeping eczema," and when the serum dries crusts are formed, "crusting eczema." All of these manifestations may be present at the same time and are manifestations of the same abnormality of physiology.

SEBORRHEIC DERMATITIS[6]

Seborrheic dermatitis is the most common form of dermatitis in infancy and is responsible for the so-called cradle cap or milk crust which few escape. Ordinarily seborrheic dermatitis is characterized on the general body surface by scaling patches of varying size and shape which are usually sharply circumscribed except on the face. The scales may be dry or greasy or large or small. There are two principal forms:—(1.) a scaly erythematous type of eruption affecting the seborrheic areas (the scalp, the vertical third of the face, the eyebrows, the chest and the presternal interscapular areas) and the pubic regions and (2.) a moist, fissured type attacking the flexures, especially the post-auricular and inguinocrural regions; the intergluteal cleft; the umbilicus and the axillae.

There are a number of features which enable one to distinguish between atopic and seborrheic dermatitis. In seborrheic dermatitis there is a characteristic potato chip type of scaling in the case of the larger scales, and the smaller scales these may be described as resembling corn flakes or the crumbs of potato chips.

In atopic dermatitis the scales are whiter, do not tend to be as large and the edges, which do not curl, are closely applied to the skin. The color of the involved skin in atopic dermatitis is characteristically red; in seborrheic dermatitis yellowish, salmon or brown. When the uninvolved skin is tensed it may have yellowish tint.* Seborrhea may occur in large, wax-like plaques, particularly on the lateral surface of the lower arms and legs. In rare instances such a plaque may occur around the mouth, in which case the crusts may be broken by contractions of the orbicularis oris, causing cracks in the plaque to radiate out from the lips.

Seborrheic dermatitis is ordinarily accompanied by some itching and very often the mother of such a child will state that the child itches severely but she really does not know what severe itching is unless she has seen a child with atopic dermatitis. As a result of the less severe itching in seborrheic dermatitis there is usually absence of scratch marks and secondary infection. Seborrheic dermatitis may become secondarily infected but that is uncommon unlike atopic dermatitis where secondary infection is a characteristic feature.

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* This was first called to my attention by Dr. D. E. Johnstone, then a Fellow in Pediatric Allergy.

In seborrheic dermatitis there is absence of lichinification which is characteristic of atopic dermatitis which is persistent for any period of time and is perhaps related to the more intense itching as well as congestion. Seborrheic dermatitis shows no vesiculation as is occasionally seen in atopic dermatitis. Both seborrheic dermatitis and atopic dermatitis have a predeliction for the folds of the elbows and knees (the cubital and popiliteal fossae) but in seborrheic dermatitis the lesions tend to be limited in extent to where the skin comes together when the joint is flexed. In atopic dermatitis the lesions about these joints extend much further in either direction away from the joint. In seborrheic dermatitis the rash tends to be marginated; that is to say the center of the joint fold may be relatively clear while the rash is much more prominent around the periphery. In atopic dermatitis there is no characteristic difference between the center of the joint lesion, as a rule, and the periphery.

Seborrheic dermatitis not infrequently shows a phenomenon which has been termed "tesselation" because of its suggestive resemblance to the normal tesselation of the eye grounds. In this condition cracks occur in the seborrheic crust permitting the inflamed skin to show through between the scales giving the skin a checkerboard or tesselated appearance depending upon the distance between the cracks. This is quite characteristic.

In seborrheic dermatitis, unlike atopic dermatitis, the skin may have an oily sheen and in some instances the margins of seborrheic dermatitis are characteristically serpiginous which is not at all characteristic of atopic dermatitis.

Depigmentation may occur in portions of the skin which have in the past been involved with chronic atopic dermatitis. This is considered to be of inflammatory origin and is particularly noticeable during the summer when adjacent areas of the skin may be well tanned. The depigmentation is rarely permanent. This phenomenon does not occur in seborrheic dermatitis.

Seborrheic dermatitis characteristically involves the diaper area, atopic dermatitis much less frequently. This observation so impressed Dr. Lewis Webb Hill (personal communication), who has done more work in this field than anyone else, that he once tried making an ointment out of salts precipitated from the urine, applying the preparation to the diaper area. However, Dr. Hill stated that all that resulted from this was a group of very foul smelling infants with no help for the dermatitis.

Seborrheic dermatitis involving the diaper area at times may be mistaken for moniliasis. However, as a rule, seborrheic dermatitis does not have the characteristic satellite lesions of moniliasis; monilia are not found in such large numbers and it does not respond to specific anti-monilia treatment. We have also had a number of patients whose diaper rash appeared perfectly atypical of moniliasis but on culture only hemolytic staphylococcus was found and the lesions yielded to proper antibiotic therapy.

Intertriginous seborrheic dermatitis may at times be mistaken for a fungus infection and this can usually be ruled out by the culture or skin tests.

Lobitz and Campbell[7] have studied the so-called "white dermographia" in atopic dermatitis. In the normal individual, if the skin is stroked, the triple response of Lewis and Grant is characteristically elicited. This is a red line which appears in three to 15 seconds and is due to trauma and limited to the area of the stroke. Then as a result of dilatation of the arterioles by an axon reflex there is a flare around the red line with a spreading flush which develops in a few seconds and in about one to three minutes a wheel replaces the red line. In the atopic individual, when this phenomenon can be elicited, there is first a red line as in the normal skin and then in 15 to 30 seconds or longer this changes to a white line due to vasoconstriction, and there is no wheal. Occasionally a red flare will be present around this white line. This is rather characteristic of atopic dermatitis though it may occur in other conditions.

The findings of Crawford[8] with respect to the incidences of nasal eosinophilia in atopic dermatitis are most interesting. He found eosinophilia in 52 per cent of those over three months of age. Under three months of age nasal eosinophilia is physiological. In seborrheic dermatitis the nasal smears showed only 10 per cent of eosinophils and in contact dermatitis seven per cent and only four per cent in the controls. Eighty-five per cent of the infants with atopic dermatitis showing positive nasal eosinophilia later developed respiratory allergy. This compares with 80 per cent of all infants with atropic dermatitis in a previously reported series.[9]

A very interesting phenomenon of seborrheic dermatitis is that this may in the infant gradually change almost imperceptibly into typical atopic dermatitis. The reverse never occurs. This observation has been made by a number of competent observers. It should also be mentioned that if one encounters a very severe somewhat atypical seborrheic dermatitis which is stubbornly resistant to all forms of treatment one must consider the Abt-Letterer-Siwe disease (non-lipoid reticuloendotheliosis). On the average we see in consultation each year one or two cases of this disease, mistakenly diagnosed as seborrheic dermatitis. In appearance seborrheic dermatitis may at times very closely resemble psoriasis, but with psoriasis other stigmata are usually present. Simon[10] extracted a substance from human dander, the most common form of seborrheic dermatitis, to which the majority of patients with atopic dermatitis give positive skin reactions not found in persons not suffering from this disease. These various observations suggest some possible fundamental relationship between these three diseases. However, it seems more likely that Simon's observation may represent some form of a autosensitization to decomposition products of human skin. It is interesting in this connection to speculate, as did Sulzberger[11] who reviewed other evidence to this effect, that such sensitization might result in self-perpetuation of the atopic dermatitis, thus explaining many instances of stubborn resistance to almost all forms of treatment.

Atopic dermatitis, particularly in the more acute forms, is almost invariably accompanied by some degree of seborrheic dermatitis; the reverse is not true. The term "sebatopic dermatitis" might well be applied to those cases in which both conditions are of significance.* In such cases or if there is a doubt as to whether one is dealing with atopic or seborrheic dermatitis or of the relative importance of each, a study from the standpoint of allergy is in order, particularly when one considers the fact mentioned above, that seborrheic dermatitis may at times pass by imperceptible degrees into atopic dermatitis.

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* I first heard this term used by Dr. Bernard J. Oseroff of Rochester, N. Y., with whom I believe it is original.

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ASTHMA IN INFANCY AND CHILDHOOD

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An asthmatic child is often the first patient in a young doctor's waiting room, or the first one who calls for his help at night. When he becomes well established he finds that wheezing children comprise a large percent of his practice, account for many office and night visits, as well as consume a large part of his time. The asthmatic child is often taken to each new doctor in town with the hope that a new "cure" will be obtained. The parents of asthmatic children are ever eager to try new remedies. This leads them to inconsistencies and attitudes which vary between meticulous cooperation with medical programs, and unpredictable acceptance of unorthodox folk lore. Unless a speedy "cure" occurs, eventually negativism or apathy in the parents, and rebelliousness in the patient may develop. This response is not uncommon in any chronic condition characterized by ups and downs. The ability to recognize this quality in patient and parents is one of the important factors in the successful management of asthma in childhood.

Asthma is a fascinating medical problem, in its clinical development and incidence, its diagnostic challenge, and its multifaceted treatment. The detective story aspect of its etiology, with excursion into fields as unrelated as botany and psychiatry, is intriguing. Basic immunologic, physiologic, biochemical and endocrinologic principles, may all be exemplified in one asthmatic child. The problem of prevention of asthma, the economic and social aspects of the disease are additional features which command attention.

Here in Connecticut the medical profession and health workers have some conception of the magnitude of the number of school children who are allergic. A survey conducted by the Connecticut Association for Health, Physical Education and Recreation,[1] as a part of a study of Fitness of Connecticut Youth, presented at the Governor's Conference May 8, 1959 showed that 46 per cent of all diseases reported were allergic. Another survey by Szanton, Appel and Rapaport[2] involving 3,906 children found one child in five with major allergy, with 80 per cent having onset between the first to the fourteenth years of age. Only one in three of these children was receiving treatment for his allergies. These figures are borne out by other recent surveys in the New York area,[3] and by the National Health Survey U.S.P.H.S. 1957-58.[4] In the latter it was estimated that 2.1 million U. S. children under 15 years of age had hayfever-asthma. During this year 36,000,000 restricted activity days were reported for hay-fever-asthma by children kept away from school or play. Table I[5,6]

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Table I
Incidence of Asthma in Children

SOURCE	DATE	RATE/1,000	RATE/ CONDITION	SIZE OF SAMPLE
Szanton, Conn.[2]	1958-59	36	46%	3,524*
Rapaport N.Y.[3]	1959	1 in 5 allergy†		2169
U.S.P.H.S. U.S.[4]	1957-58	39.1	30%	115,000‡
U.S.P.H.S. 18 states[5]	1929-31	3.1-4.5		
Kraeplien, Sweden[6]	1949-50	7.3		685,000

* Grades 5, 8, 11.
† Condition not specified.
‡ 1/3 children.

The development of asthma, and its antecedents in children are of interest. Several years ago with Bachman,[7] we reported on a study of 403 "well" babies during their first and second years of life, in an attempt to learn the incidence of cow's milk sensitivity among them. While we found only four babies (one per cent) allergic to cow's milk, with gastrointestinal, skin or respiratory symptoms, there were a total of 43 infants (10 per cent) who wheezed on one or more occasions. Five years later we again reviewed the records of these wheezy children to see what had subsequently developed. There are but 19 (44 per cent) of the original 43 with whom contact could be made. Of these three (16 per cent) have wheezing in their 5th and 6th years of life. (Table II). The usual story is that asthma

Table II
Follow-Up 43 Infants Wheezing in First Year

YEAR	NO. OF CHILDREN	NO. WHEEZING
2	35 (81%)	10 (28%)
3	27 (63%)	4 (15%)
4	22 (51%)	4 (18%)
5-6	19 (44%)	3 (16%)

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begins insidiously, only rarely does the first attack come out of the clear without some allergic symptoms or forewarning. Feeding problems, gastrointestinal symptoms, skin rashes, frequent colds and wet noses, wheeziness with "colds," croup, hacking cough, are repeatedly and frequently noted in the early months and years of asthmatic children. The suspicion of allergy is even greater if the parents, or very close relatives are known to be allergic.

In spite of this characteristic background, the diagnosis of asthma in very young children may be a most difficult one to make. Wheezing, difficulty in breathing and signs of obstructive emphysema may be due to a variety of very different nonallergic causes. Establishing the correct diagnosis is urgent in order to start effective treatment, as well as to avoid branding a child as asthmatic with the unfortunate actuarial handicap of asthma, if the respiratory difficulty is due to some other cause. Some of the conditions which cause wheezing, to be differentiated from asthma in children are shown in Table III. The four which must always be systematically excluded because of urgency in treatment are foreign body, bronchiolitis, atelectasis, and tuberculosis. Those which are less apt to require emergency measures, but which are of serious nature are vascular anomalies, certain anomalies of the respiratory tract and cystic fibrosis.

TABLE III
CONDITIONS CAUSING WHEEZING IN CHILDREN

1. Requiring Immediate Treatment
    - Foreign body
    - Bronchiolitis
    - Atelectasis, massive
    - Tuberculosis
2. Common, serious
    - Atelectasis, partial
    - Bronchiectasis
    - Cystic Fibrosis
3. Common, not serious
    - Nodes, short, neck
    - Flaccid epiglottis, larynx, etc.
4. Rare.
    - Anomalies; respiratory, vascular
    - Tumors, cysts, etc.
    - Infections
        - Diphtheria
        - Histoplasmosis
        - Pneumocystis carni
        - Loeffler's Syndrome
    - Metabolic
        - Hyperventilation
        - Pulmonary fibrosis
        - Hemosiderosis

If skin tests are positive, or blood eosinophilia is present in babies this is helpful as it is in older children, but all too often in the first two years neither of these tests are positive. The diagnosis must rest on history, observation in controlled situations, and the physical examination.

The physical findings in asthma in infancy may be primarily rapid, labored respiration with inspiration and expiration about equal. Suprasternal and sternal retraction, with retraction at the insertion of the diaphragm, flaring of the rib margins, and exaggerated abdominal breathing are present. There may be varying degrees of cyanosis. The most consistent finding is bilateral emphysema, with a hyperresonant chest. Glaser[8] has pointed out the importance of the loss of cardiac dullness in such asthmatic children. Since atelectasis as a complication of asthma, or atelectasis due to other causes, may simulate asthma, it is extremely important to outline and establish the point of maximum impulse of the heart, which may be displaced toward a collapsed lobe.

The breath sounds may be decreased in intensity, but often this can not be determined, because of the loud rales of all types which are present. These almost always have a musical wheezy quality, and in infancy, and in young children, the predominance of the expiratory wheeze is not as marked as in later years. The rales tend to be very high pitched. One almost always hears tracheal rhonchi which will change after cough or position.

Voice sounds, vocal and tactile fremitus are not very helpful findings, except when atelectasis is present, or when pneumonia complicates asthma.

The general picture which a severely asthmatic baby presents is one of restlessness. He can not be comfortably situated in bed or in mother's arms. He tosses and turns, stands up, flops down, often on his face with buttocks up. He has an anxious look, and a peculiar wide-eyed appearance which is quite typical of children with air hunger. It has been noted while older asthmatic children assume the characteristic propped up sitting position, infants and two-four year olds may be apparently comfortable when lying flat.

In the child over four years, the physical findings during an asthmatic attack are more like those found in adults. The chest is fixed in an inspiratory position with shallow, accelerated respirations and suprasternal retraction. The lung bases are low, percussion hyperresonant, breath sounds distant with musical rales which are primarily expiratory.

The degree of fixation of the chest, the persistence of emphysema, and tension of the neck muscles are physical signs which give a clue as to the amount of chronic low grade asthma which may be present between attacks, and the degree of pulmonary impairment. In my experience, clubbing of the fingers is an infrequent finding in chronic asthma regardless of the severity of the disease, unless other complications are present. The question of cardiac strain, and damage is one which is raised repeatedly by parents, and which has been studied by several investigators. The early workers concluded that there were no characteristic cardiac findings in asthma and that attacks of asthma did not result in any changes demonstrable electrocardiographically.[9] More recent work would indicate that there is evidence of right ventricular strain in certain patients. This may be due to the more vertical position and rotation of the heart when the lungs are emphysematous and diaphragms are low.[10]

Pulmonary function tests are more difficult to carry out in children than in adults, and for this reason their use in pediatric practice has lagged. Timed vital capacity and maximum breathing capacity measurements are feasible in older children.[11] Both are decreased in asthma as is lung compliance. Total lung capacity, functional residual volume and vital capacity may be normal. Data on reference standards for children are accumulating, so that this more precise tool is being applied more regularly.[12] Certain clinical tests such as blowing out a match held at arms length, a measurement of the time required for the respiration and pulse rate to return to resting level after the child has walked, run, skipped or jumped a standard time, all give the physician a good working knowledge of the child's ability to respond to exercise if he makes his own comparisons with children of the same age without respiratory or cardiac problems. Observation of the way in which an infant nurses is a good clinical test of a baby's respiratory reserve. A truly dyspneic infant will be obliged to stop nursing frequently to rest, whereas one whose breathing is not embarrassed will suck for much longer periods. Active, incessant kicking and arm movements which most normal babies exhibit when undressed are decreased in those who are dyspneic, even though such babies are restless and turn and change position often. The development of cyanosis after crying is generally considered evidence of a cardiac rather than a pulmonary basis for dyspnea. The infant or young child with persistent obstruction from bronchiolar spasm, or tenacious mucus in the smaller bronchioles, or who has enough air trapping to interfere with air exchange may also become more cyanotic after crying, since inflating his lungs and deeper breaths do nothing or little to improve aeration.

There are infinite variations on the treatment of asthma depending on the age of the patient, duration of the disease and severity of the current symptoms. Choice of therapy will also be determined by whether ones aim is merely immediate relief, or ultimate control. For the latter, it is important to know the patient, the etiologic factors which precipitate attacks, and the extent of any complications and associated symptoms which are present.

The immediate aim always is to relieve the obstructive emphysema and improve oxygen exchange. This can be accomplished by a variety of bronchodilating drugs, by expectorants, by increasing oxygen in the air immediately surrounding the child, and by clearing the child's airway. It is unnecessary to discuss the many well known bronchodilators in detail, except to note that asthma which develops rapidly usually requires a potent, rapidly acting drug for relief, such as epinephrine and derivatives of isopropylarterenol, or aminophyllin. The more slowly acting bronchodilators, such as ephedrine, or xanthine compounds given by a route with slow absorption such as orally, or by rectal suppository, must be given at the very onset or for mild symptoms in order to be useful. There is a paradoxical type of medication which simultaneously offers antihistaminics which have an atropine effect, and expectorants, which would seem to have little logic to recommend their prolonged use in asthma. Potasium iodide remains a keystone drug for chronic asthma. The doses of five drops of saturated solution of potassium iodide, three times daily for a three year old, can be increased by one drop per year of age to a maximum of 10 drops three times daily for older children. If an expectorant is needed for prolonged periods, as it often is, we like to intersperse several weeks or months of glyceryl guaiacolate, (Robitussin plain (R)).

The most important agent for liquefying secretion is water, by mouth, by added humidity to the air of the home, and by direct inhalation. This obvious means of restoring fluidity to secretion must be reiterated over and over again to parents who keep their asthmatic children closely confined in hot, dry houses through all the cold months of the year.

A most effective means of clearing the airway is by breathing exercises and postural drainage. We attempt to give this instruction to every asthmatic child over three years of age. The parents of those younger are shown how to do simple passive leg flexion and chest percussion with postural drainage. Twenty years of experience with these exercises in our Clinic has impressed us with their value not only in aborting attacks, but in improving mild asthma, and even in relieving severe acute attacks. We have repeatedly seen children with such severe asthma, who on first examination give the impression that heroic doses of bronchodilators will be needed, who become comfortable without medication after carrying out the breathing exercises, during which they cough up as much as two to four ounces of sputum. If the child has a very poor air exchange, and a dry distant type of breath sounds then a bronchodilator should be administered initially before attempting the breathing exercises. This form of physical therapy has been extensively used in England,[13] especially at Brompton Hospital, and on the Continent, and is increasing in use in this country. Some impetus has been given to the physical therapy of asthma along with other pulmonary diseases by the advances in thoracic surgery and by refinements in pulmonary function tests, which give a better understanding of pulmonary physiology.

The corticosteroids and ACTH are so widely used for asthma that it may seem superfluous to comment on them. In spite of their general acceptance, their mode of action in asthma, except as non-specific anti-inflammatory agents is still not clearly understood. The universality and rapidity by which they relieve asthma, at times even after one dose which is less than physiological, are puzzling attributes. The indication and contraindication for steroid therapy have been reportedly outlined and are well known. Each physician has his own policy in regard to steroid therapy. Many will hotly contend that they should be used frequently or constantly. They obtain brilliant results, and no ill effects; while others will as vehemently cite instances where much milder medications were equally effective, and show examples of serious side effects. Realizing that our personal experience will determine our stand on this matter, I cannot help but be impressed by the complications and the impossibility of discontinuing steroid therapy in many of the patients who are referred to our Clinic.[14] The large number of patients who have been given steroids before anything else was used for asthma is illustrated in our Clinic in one year in (Table IV). We so frequently see the complications of steroid therapy in this setting that we do not like to use steroids unless all other measures have been given a reasonable trial and have not succeeded in relieving symptoms.

TABLE IV

THE USE OF ADRENOCORTICOSTEROIDS IN 210 ALLERGIC CHILDREN*

			NO.	% PTS. RX'D	% TOTAL†	PERCENT
210	No Known Rx	132				62.8
Allergic	Known Rx	72				34.3
Children	Suspected Rx	6				2.9
	Topical Rx only		20	27.8	9.5	
Type Rx	Systemic Rx only		42	58.3	20.0	
72 Patients	Topical and Systemic Rx		10	13.9	4.8	
Duration	Brief Rx (1-3 episodes)		28	53.8	13.3	
Systemic Rx	Short-Term Rx (<4 mos.)		16	30.8	7.7	
52 Patients	Long-Term Rx (>4 mos.)		8	15.4	3.8	

* McKay H. W., Jr. and Dees, S. C.: Experience with adrenocorticosteroid therapy in allergic children. N. C. Med. J., 20: 333-340, (Sept.) 1959.

† 210 patients.

We recently called attention to the occurrence of pseudotumor cerebri in three asthmatic boys who were either on low doses or in whom steroids were being withdrawn.[15] All of these children recovered after they were given large doses of cortisone or hydrocortisone, and in two the steroids have been successfully withdrawn. The third lad is now beginning his second year on ACTH, still attempting to withdraw this drug.

Since this report was made, we have had one fatality in a 13 year old boy who died with cerebral edema during an acute attack of asthma, three weeks after triamcinolone had been discontinued, after what had been apparently a gradual, uneventful withdrawal. The sudden death due to cerebral edema in one other patient whom we had followed for many years has also been reported to us. This lad, too, had been on metisteroids for many years. His death occurred after steroids had been gradually withdrawn without any apparent ill effect.

There is no doubt that steroid therapy is one of the great therapeutic advances in the treatment of allergic diseases, and many days of serious illness and many lives have certainly been saved by their beneficial effects. Nevertheless, there is this other side, their potential danger, whose nature we do not understand at present, which makes us feel that steroids should be used with the greatest discrimination and after serious thought about the possible consequences.

When the basic factors which differentiate an allergic from a non-allergic person are known, it will no longer be so necessary to concentrate on the multitude of allergens which sensitize and trigger allergic reactions. Until that time, the approach which either eliminates contact with the allergen, or decreases sensitivity to it seems the most fruitful long term one. For this reason I believe that specific desensitization is a worthwhile form of treatment. It also seems logical to attempt to prevent any unnecessary exposure to potential sensitizers in children whose heredity indicates they came from biological stock in which allergic disorders are common.

This means conservatism in introducing new solid foods, and substitution of uncommonly used foods for those which are staple items of our diet, during the early months of life. Precautions to provide clean dust-free air and to avoid close animal contact are measures which can and should be carried out for such children. For any one child the scientific proof that these efforts are effective can not be demonstrated, but the aggregate of children from allergic families who are treated this way seems to bear out the value of prophylaxis of this sort.

Infection in the allergic child and exposure to family infection is a most important factor in bringing on asthmatic attacks, and contributing to chronic asthma. It is imperative to search for family carriers, and persons with actual infection, no matter how trivial. Such family surveys should be repeated as often as the asthmatic child has infections.[16] The family doctor has a great advantage over the pediatrician or specialist in that he is aware of the health status of the whole family all the time. The physician who knows only the child as a patient is all too apt to concentrate his entire attention on the child. We have seen many a resident run through a whole gamut of antibiotics, gamma globulin determinations and special tests, and conclude that he had a patient whose infection was of some obscure nature, because of its recurrence, when all the time unnoticed in the same examining room was the child's mother with bronchitis and a little brother with a drippy nose.

This is but a facet of the relationship of the allergic child to his family. The interpersonal relationships which may provide an abnormal background to intensify asthma have been stressed by many psychiatrists and allergists.[17] Psychological factors are of prime importance in many asthmatic children. It is essential for the physician to try to evaluate whether they are secondary to chronic ill health, or to repeated acute frightening illness, or whether they are of a more fundamental nature. With the former two he may be able to help; with the latter he usually does well to advise psychiatric counselling. The meticulous child care which the parents of asthmatics are encouraged to provide by physicians and which comes so naturally to them, is fertile soil upon which to build a structure of over-protection. Such parents all cite innumerable instances when trouble followed immediately upon their slightest lapse or relaxation of vigilance. Without their prodding, they say the medical men would have moved into action almost too late to avoid disaster. They build up a legend of indispensableness about themselves. This feeling is joined with one of self reproach whenever the child falls ill in spite of precaution. A mountain of self sacrifice, denial, and dollars is offered to asthma. After a time this becomes tiresome, and guilty feelings are compounded with all the rest. When the child learns to manipulate his family by using his asthma, then any emotional upset can set off symptoms. If these reactions are not recognized and dealt with appropriately, any purely medical regimen is destined for failure.

The special problems which asthma adds to family life are illustrated by the predicament of a family whom we have recently met. The four year old daughter has had severe asthma since nine months of age. She is now living in a "dust-free" bedroom, on a special diet, taking six different antiasthmatic preparations, including steroids, several times each day. The older brother receives no medical and little family attention, (although he, too, has allergic rhinitis, a facial tic and mild wheezing), because of the preoccupation with the more severely ill child. The mother sleeps in the room with the daughter, to be near her at night when she has her regular nightly attack. Parents have practically stopped all social life, no longer take the child to friends or relatives homes, nor take trips together because each excursion is followed by acute illness. They are considering building a new home, installing special heating and air-conditioning, in an effort to help the situation. They wonder if moving to a different climate would solve their problem. This would necessitate the father's making a completely new start in his profession, at a substantial financial sacrifice. Servants are difficult to find and to keep, because of the special precautions with which cleaning, cooking and nursing are carried out. Playmates are restricted to those who are screened for infection. Nursery school is out because of possible exposures. The mother says "we used to have six weeks of easy breathing after each spell of asthma, and we planned our lives accordingly. Now we always are expecting trouble. . . . I have aged 10 years in the last three years . . . If I could only find someone to help out with the nursing, but there is no one who would take such 24-hour duty." The father sighs. The brother timidly asks "Doctor, can I have a dog?" The little girl coughs.

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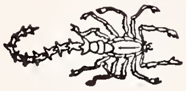

GENERAL CARE AND PROPHYLAXIS OF THE ALLERGIC CHILD

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Prophylaxis and the general care of the allergic child go hand in hand. When a mother calls her doctor in the middle of the night and says that her child is having horrible colic or wheezing, she does not want a lecture on what ought to be, or what medical students should know about the subject. She wants practical advice from "the doctor," who should show genuine interest in the problem, give practical and usable advice, and inspire confidence which will allay the parent's fears.

For brevity, I have put most of my talk on slides. Table 1 summarizes possible sources of intrauterine sensitization, based partly on theoretical information and partly on fact.[1,2,3,4] Although the value of restricting the diet of an expectant mother of a potentially allergic child is debatable, it is a safe and practical diet. The mother's milk should be either boiled or be one of the commercially available forms of fat-free powdered milk. The latter is usually acceptable to pregnant women because of its lowered caloric content.

Although previous pregnancies or transfusions in adult life are the commonest way a mother may become sensitized against the Rh factor, it should be recalled that transfusions of Rh positive blood to Rh negative babies or infant girls is a potential source of erythroblastosis of the next generation.

Table 2 summarizes the dietary restrictions suggested for the first nine months of potentially allergic children, i.e. children who are either the offspring or sibling of a person with a major allergy (asthma, hay fever, perennial allergic rhinitis or atopic eczema). This table also lists data on a preliminary study[5] to evaluate the effectiveness of such a diet in minimizing or preventing the development of major allergies in these children. The data suggest that potentially allergic children on this regime developed only a fourth as many major allergies as their siblings. It further suggests that children on the experimental diet who did develop subsequent atopic eczema or milk allergy developed only a fifth as many major allergies subsequently as their siblings. This data has been subject to much justified criticism in that it was a retrospective study with no proper control group. Nevertheless, the suggested diet is safe and practical. If properly controlled clinical studies, now in progress, show only a fraction of the reduction in the expected incidence of major allergies in potentially allergic children, apparently as a result of the suggested diet, then it will certainly have been justified.

Table I
In Utero

Diet:

To prevent intrauterine sensitization, avoid food fads and cravings eat minimum of EGGS, NUTS, FISH, SPICES, or take them in "denatured form" (i.e. well cooked).

Maternal Intrauterine Sensitizations:

Rh factor (previous babies or transfusions at any age) Polio vaccine, perhaps other vaccines or toxoids to increase mother's active immunizations.

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Table 3 lists some reminders of routine prophylactic measures recommended for early infancy. In the past 15 years, there has been a growing tendency to introduce solid foods into the diets of infants very early. Some pediatric allergists[6] feel that this may be one of the factors responsible for an apparent increase in the rate of major allergic disease in childhood in this country. There are several forces which encourage this fad. One such force is referred to as the starvation phobia. There are some social and ethnic groups who have either direct or indirect experience with some relative or ancestor having had insufficient food. Consequent-

Table II
Newborn Prophylaxis Program

Diet of potentially allergic children should be completely free of MILK, BEEF, EGGS, CHICKEN, WHEAT, and FISH for first nine months of life.

Results of preliminary study of effect of diet

	Incidence in three groups of allergies		
	NO. OF CHILDREN	MAJOR ALLERGIES	ATOPIC DERMATITIS AND SEQUELLAE THEREOF
Experimental Group	96	14	7 (One got asthma at 3 years)
Siblings of Exper. group	65	42	21 (Fifteen had major allergies between 4-6 years)
Non-related Control group	175	91	50 (Thirty developed major allergies by 5 years)

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TABLE III
INFANCY

1. Avoid too early solid food introduction. Avoid mixtures of foods.
2. Avoid wool contact and discourage habits of sucking on wool blankets; keep stuffed toys out of bed.
3. Maintain adequate immunizations against pertussis, diphtheria, tetanus, and polio; avoid contact of eczematious infants with small pox-vaccinated children.
4. Avoid vaccines derived from egg-grown cultures.
5. Modify measles with gamma globulin.
6. Diagnose atopic eczema and respiratory allergy early.
7. During intestinal disorders, avoid new, raw or lightly-cooked foods.
8. Urge mothers to keep drug diary, try new drugs when child is well; give symptomatic antiallergic medications at first sign of disease.

ly, mothers in such families place an undue importance on the diet of their children. The reasoning is that if insufficient food means starvation and eating means life, then more eating is insurance of more life or less chance of death. Thus, these children are likely to be overfed. The rationale for this attitude is somewhat akin to the motivation of some mothers who insist that their children be circumcized because they have "heard that circumcized children are smarter than noncircumcized babies and (they) want (their) baby to get a good start in life!" In addition, mothers tend to compete with their neighbors. If a mother reports that her pediatrician recommended introduction of a particular solid food at six weeks of age, her neighbor may go to her doctor and ask if she may give two new solids to her baby at four weeks. This tends to place pediatricians and general practitioners, especially young ones, under pressure to go along with this trend. However, when they yield to such pressures, they may be a party to early sensitization of potentially allergic infants to some of these foods, especially egg, wheat, and milk. Part of the problem stems from a misunderstanding on the part of the mothers as to what is necessary in terms of optimal nutritional needs of a growing infant. In the first four to six months an infant needs milk, or an adequate substitute, vitamins, iron, and calcium to build blood and bones, and protein to grow on. But this does not mean he needs a lot of starchy cereals and vegetables which he may not adequately digest and to which he may become sensitive. Also, now that suitable individual strained meats are commercially available, egg yolk may be safely avoided. In the first 9-12 months a potentially allergic child should avoid all forms of egg, chicken, fish, wheat, cocoa. Ideally, he should not get whole milk until nine months, if he has started on soy bean milk or meat base formula. When solids are introduced, individual foods should be given in place of mixtures.

The environment of a potentially allergic child or of an allergic child is quite important. We don't want to go overboard on how fastidious we should be about this, but it is helpful information in telling young mothers what we consider ideal for such children. Some day they will be buying more new furniture for the household or for subsequent children, so it is never wasted information even if it is impractical for financial reasons at the moment. The child's bedroom should be a place only for sleeping, not a playroom. It should be as free as possible of irritant inhalable allergens. The furniture should be such as not promote the production of dust or mold spores. The mattress should be encased in a zippered-on dust-proof casing. Dust-collecting drapes and chenille bedspreads and wool rugs should be avoided. Blankets should ideally be washable. Wool may be allergenic and some synthetic materials used in blankets, while presumably not allergenic of themselves, have electrostatic properties which attract dust. The heating of the bedroom should not be hot air heat, which bathes the child in a dilute sea of dust. It should be either radiant heating or hot water heat. If this is impractical, a small electric heater may be used, if the child is old enough to be trusted with it unattended. An alternative heating arrangement is the use of an electric blanket. Live pets should be kept out of the bedroom, and ideally out of the house. Otherwise, dog or cat dander may become part of the house dust blown about by the heating system. Cellars should be kept free of dampness either by painting the walls with sealing compound, by using dehumidifiers or, if necessary, by adequate drainage of the home with dry wells, etc. The mold spore content of one's housedust may be lessened by use of mold-resistant paints, especially on cellar walls, or by occasional fumigation with formaldehyde. The latter can only be done when the whole family is going to be away from the home for at least three days, as on a vacation. Dust in general may be somewhat reduced by means of using commercially available dust sealers on stuffed furniture and rugs. Stuffed toys should either be kept out of the bedroom, or a wooden box with a lid should be provided so that the child does not sleep with these items strewn about his bedroom.

The allergic or potentially allergic child deserves the same essential immunizations against diphtheria, pertussis, tetanus, and polio as non-allergic children. Pediatric allergists often see children whose parents report that their physicians advised against D.P.T. or other immunizations for fear of dangerous reactions to these procedures. This fear is usually not well founded. Occasionally, we see a child who will react to toxoids because he is silk-sensitive. Silk filters are often used in making many vaccines and minute traces of silk may be found in these vaccines. A child may get sensitized to silk without ever having been near silk cloth. This may happen as a cross reaction between silk and other insects to which the child gets sensitized by repeated stings. However, such reactions to toxoids are unusual. Since pertussis may lead to asthma, it is desirable to give DPT immunizations in the first few months of life and not withhold them simply because they are potentially allergic children. One may give these immunizations in fractionated doses.

The only exception to early immunizations in allergic children is the use of small pox vaccination in children with atopic eczema or other generalized skin eruptions. Mothers of these children should also be warned that eczematious infants should also avoid contact with other recently vaccinated children, including siblings. Similarly, contact with children or adults with herpes simplex infections may cause Kaposi's varicelliform eruption in eczematous infants.

While giving immunizations, we should take the chance to educate parents about the difference between active and passive immunization. If is always a source of alarm to me that many mothers who are nurses or even wives of physicians have no concept of the difference between tetanus antitoxin and toxoid. In the general care of allergic children, mothers should be told this difference to make sure that these children get their boosters and to try at all cost to avoid getting horse serum. As Dr. Schick pointed out, serum sickness is one disease which is produced by the doctor.

Because so many allergic children are sensitive or sensitizable to egg, vaccines containing egg protein are a special hazard to them.[7,8,9,10] Since more and more new vaccines are appearing on the market, we should always remind ourselves to ask about known egg sensitivity. Some allergic adults, who presumably never suspected egg sensitivity have had fatal or near fatal reactions from influenza vaccine injections. This is especially a problem when pediatricians are asked to participate in mass injection programs with new vaccines for school children. In any case, where there is any doubt about the possibility of egg sensitivity, one should at least do a scratch or intradermal test with the vaccine to be given. If one gets a systemic reaction to this skin test, the vaccine should not be given. If there is only a small local reaction, it usually may be given an hour or two after an oral dose of antihistamine.

Penicillin-containing vaccines are also a potential problem. However, reactions to these occur in only two to three per cent of children (usually urticaria), compared to 20 per cent reactions in children receiving egg-containing vaccines. Several brands of polio vaccine are said to be free of penicillin. If there is a doubt about the possibility of penicillin sensitivity, the physician should precede the injection with a scratch or intradermal test with the vaccine. If there is a generalized urticaria or other reaction, the vaccine should not be given. One can usually give polio vaccine to penicillin-sensitive children if one uses so-called "penicillin-free" vaccine and gives oral antihistamine two hours before the injection. Giving cortisone in advance is not a fool-proof method of preventing trouble from such vaccines.

In his talk earlier today Dr. Schick discussed at some length the effect[11] of virus infections on allergic children. Measles may have a temporary suppressing effect on allergic disease. During the convalescence from measles, however, allergic symptoms may be flared up or a child may then for the first time develop major allergic symptoms such as asthma or perennial allergic rhinitis. Other virus infections may have similar effects. If an allergic or potentially allergic child who has never had measles is exposed to this disease, we should try whenever possible to modify it by a prophylactic injection of gamma globulin.

If one accepts the statement[12] that 60-70 per cent of infants with atopic eczema subsequently develop other major respiratory allergies, then it makes good prophylactic sense to treat these children early rather than wait until they have asthma.

In potentially allergic families one should be suspicious of nasal allergy in children who get repeated ear infections (especially those who have already had an adenoidectomy), repeated "colds" (characterized by watery nasal discharge, nasal stuffiness, mouth breathing, post nasal drip, or giving the "allergic salute"), recurrent "sinusitis" or recurrent "croup." Repeated nasal smears for eosinophilia may help to make the diagnosis. If mucus is taken from the nose during a secondary bacterial infection, the smears may simply show many bacteria and polymorphonuclear leukocytes. When the infection subsides or responds to treatment, one may then find eosinophilia in the nasal smears. The tendency for allergic nasal mucus to serve as food for bacteria to grow in may confuse many parents and physicians about the basic underlying mechanism of the child's symptoms.

Ratner[3] and Hutinel[13] pointed out that after severe gastrointestinal disturbances of infancy the child may manifest sensitivity to a food for which he had complete tolerance prior to his illness. These authors presumed that increased permeability of the intestinal wall engendered by diarrhea, for example, permits the ready entrance of unchanged protein into the blood stream. Ratner was one of the first to demonstrate by animal experimentation the fact that not only can proteins pass the intestinal barrier,[14] but also that in new born animals they pass more readily than in mature animals. The speed with which whole proteins, or at least some allergenic fraction thereof, may enter the blood stream of humans was pointed out in the classical experiment of Walzer.[15] He fed egg white mixed formula to newborn infants who had been passively locally sensitized and found that a positive reaction developed at the passively sensitized site before they had finished their bottles. He concluded, "the gastrointestinal tract of the newborn infant is almost like a sieve." It is therefore important during the acute state of convalesence of severe intestinal disturbances in allergic or potentially allergic children to give a varied diet, to avoid new foods and raw or lightly cooked foods, or to give them "allergenically denatured" foods. This same increased permeability of the intestinal tract may also occur following surgical operations.

Because allergic conditions in childhood are apt to necessitate the use of many symptomatic medicines the pediatrician and family physician should urge the mothers of these children to keep a drug diary. It should be emphasized that this is primarily for her own benefit and education. We recommend that the mother tape a clean sheet of paper on the back of the door of her medicine cabinet with five columns; (1) *the date* when a medicine was first prescribed; (2) the *name* of the medication. This requires that the physician prescribing medicines for the child should always ask the pharmacist on the prescription to label the medication with some identifiable generic or trade name; (3) the *purpose* of the medicine, e.g. antibiotic, nasal decongestant, wheezing medicine, etc.; (4) *Side Effects or Disagreements.* Does it cause drowsiness, excitation, nausea, vertigo, rash, intestinal symptoms? (5) *Effectiveness.* Does the medicine help alleviate the symptoms for which it was prescribed? All too often a mother has had experience with a certain medication that causes trouble and then when asked about it by her doctor or a new doctor she either does not know its name or if it helped or what it was for when it was originally prescribed. So it is for the mother's education as well as anything else that we encourage keeping such a diary. Similarly, we should always warn mothers of allergic children in advance, when prescribing any new medication, that it may cause some untoward side effects. She should be urged to give the medicine to her child for the first time, if feasible, when he is well. If no side effects are noted, one can feel more confident that any symptoms such as emesis which occur when the medicine is given for allergic symptoms, that the emesis is due to the disease and not to the medication. Finally, we should urge parents to give symptomatic medications for asthma at the very first sign of an impending asthmatic attack. Glaser[16] feels that if this is done, the attack may be lessened in severity or even aborted. It is not always easy to get mothers to follow this advice, however. Many mothers fear that any medicine or "drug" is "dope," and "dope" is something which may be addicting. Consequently, they give symptomatic medications only when symptoms get severe. If a mother can be told that medicine may help, and is not addicting and is safe—she should be urged to use it at the first sign of allergic symptoms.

Table 4 summarizezs a clinical study[17] on the incidence of drug reactions in allergic children done in Rochester a few years ago. The mothers of a large group of allergic and non-allergic children were interviewed in an effort to determine which medications were most commonly used for any rea-

TABLE IV

PERCENTAGE OF INCIDENCE OF ALLERGIC AND "SIDE EFFECTS" TO DRUGS IN 500 ALLERGIC AND NONALLERGIC CHILDREN

	INCIDENCE OF ALLERGIC REACTIONS*			INCIDENCE OF "SIDE REACTIONS"†			
	IN ALLERGIC CHILDREN	IN NON-ALLERGIC CHILDREN	OVERALL INCIDENCE	IN ALLERGIC CHILDREN	IN NON-ALLERGIC CHILDREN	OVERALL INCIDENCE	NO. OF PATIENTS USING DRUG
Penicillin	10.0	....	6.8	2.1	....	1.4	411
Sulfonamides	6.7	4.7	6.1	7.7	2.3	6.2	292
Aureomycin	3.7	....	3.3	17.2	....	14.0	208
Terramycin	3.4	....	2.6	10.2	8.3	9.8	112
Benadryl	2.2	....	2.1	11.3	....	10.7	140
Atropin	2.0	....	1.5	8.3	....	6.2	150
Aspirin	1.9	....	1.3	2.3	0.7	1.7	188
Pyribenzamine	1.7	....	1.6	14.2	....	13.3	231
Codeine	1.5	....	1.3	3.6	....	3.0	260
Phenobarbital	....	....	....	13.0	1.5	9.6	
Ephedrine	....	....	....	7.3	....	6.3	
Aminophyllin	....	....	....	11.5	....	11.2	
Epinephrine	....	....	....	3.0	....	2.6	
Totals	20.0	2.4	12.8	36.0	3.5	25.0	

* Urticaria, wheezing, nasal stuffiness.

† Diarrhea, vomiting, excitation.

son and which medications apparently caused any side effects (e.g. urticaria, diarrhea, nasal stuffiness, emesis, wheezing). It was not surprising to find in this study that the most commonly used drugs were the ones which most commonly caused allergic reactions in children, especially in allergic children. In addition, symptoms not commonly considered allergic in nature, such as emesis, diarrhea from such medicines as achromycin and other antibiotics were noted more frequently in children known to have major allergies than in children with no known allergies. In the particular population studied phenobarbital excitation was found almost exclusively in allergic children. It was noted, however, that allergic children excited by phenobarbital could tolerate it if it were given together with an antihistamine such as benadryl. Data such as found in Table 4 suggest that allergic children are prone to develop allergies to any medication directly proportional to how frequently they are given. Consequently, physicians caring for young children should make an effort to avoid as much as possible unnecessary penicillin injections. Whenever antibiotics can be given by mouth, this route is to be preferred to the intramuscular route.

Table 5 lists some other general considerations. In the routine care of allergic children we should try to include in our history taking raising the question of symptoms from insect stings.[18] Few clinical syndromes in pediatrics are more terrifying than the generalized allergic reaction which occasionally follows the sting of a bee, wasp, hornet or yellow jacket. Reactions to such bites may be merely a localized urticarial wheal. However, a more serious reaction may ensue. Generalized reactions to insects may be likened to reactions of horse serum. Occasionally one sees the development of hives, joint pains, malaise or fever several days following a bee sting. If the reaction is recognized, hyposensitization therapy should be started at once. Such a child will have a more severe reaction which comes sooner after his next insect sting from the same species. Often, however, these delayed moderate or mild generalized reactions go unrecognized and no one suspects the fact that the child is now sensitive to bee, wasp, hornet, or yellow jacket. Then when he is again stung his symptoms may follow the sting within minutes or seconds, consisting of either generalized itching, urticaria, or wheezing, coughing, nasal stuffiness or discharge, faintness, laryngeal stridor or death! If any generalized symptoms follow such insect stings, it is an absolute indication for certain immediate and long range measures. Cold applications at the site of the bite may reduce itching and swelling. For generalized symptoms an injection of epinephrine into the site of the bite slows the absorption of the venom and usually controls itching and other more alarming symptoms. Antihistamines orally may help, but are slow to act unless given by injection or given in a form directly absorbable from the oral mucosa (e.g. sublingual Isuprel). Isuprel and similar medications are inactivated by gastric secretions and so the patient should be instructed to hold the tablet under the tongue without swallowing it or accumulation of saliva for several minutes. For the milder generalized reactions to insect stings this medication should be carried by patients known to have had generalized reactions to bites. In any case of generalized reaction, however, the patient should get to a doctor, or vice versa. Once such a reaction is recognized, hyposensitization therapy is indicated without delay, using the proper antigen after careful skin testing. Skin testing should be done with exceedingly dilute antigenic mixtures, since testing alone has been known to cause symptoms.

TABLE V

OTHER GENERAL CONSIDERATIONS

1. INSECT BITES may cause major allergic symptoms. Specific hyposensitization for such children may be life-saving.
2. SERUM SENSITIZATION may result from inhalation of dander or by eating meat as well as by injection of antisera (e.g. horse or rabbit).
3. Oleoresin CONTACT SENSITIZATION (ivy, oak, sumac) may result from direct or indirect contact. Hyposensitization orally or by injection may help.
4. INDICATIONS FOR ALLERGY SKIN TESTING:
    a) Atopic dermatitis over 6 months of age, not responding to diets alone.
    b) Bronchial asthma not responding to elimination diets.
    c) Pollinosis ("hay fever")—tendency to develop subsequent asthma.
    d) Perennial allergic rhinitis associated with recurrent ear infections, mouthbreathing in spite of T & A, or with nasal polyps.
    e) Partial skin testing indicated in serum sickness-like reactions to insect bites, chronic urticaria or contact dermatitis (patch tests only).

Sensitization to serum may result from injection of antiserum such as tetanus antitoxin, by inhalation of dander, or by eating meat of horse, rabbit or cow.

Contact dermatitis from poison ivy, oak or sumac may originate from direct contact or from indirect contact such as results from touching a pet who had previously brushed passed one of these plants, or from contact with smoke of one of these plants being burned in a trash pile a block away. Because of the tendency for each subsequent contact to cause increasing symptoms, attempts should be made to hyposensitize such children either by the oral[19] or subcutaneous route.[20]

Indications for allergy skin testing vary among pediatricians and even among allergists. Table 5 lists the indications in our clinic. Another approach to this question is the use of Dr. Howard Rapaport's "allergic index" which he presented to this meeting this morning. Support for the need for early study and treatment of atopic dermatitis may be found in the writings of MacKinney, Glaser[12] Ratner and Collins-Williams.[21] Controversy over the need for hyposensitization therapy for children with mild pollenosis stems from scepticism about its value and from failure to appreciate consequences of withholding this treatment. An attempt to test the hypothesis that hyposensitization for hay fever is of no value was made in a study[22] at the Strong Memorial Hospital Pediatric Allergy clinic in 1952. Table 6 summarizes some of the data from this double-blind controlled study done over a four year period. Of the children who were given hyposensitization injections of extract of short ragweed none developed pollen asthma in the four period of observation. Of the untreated controls, who were permitted free use of symptomatic medications such as antihistamines or home filters or air conditioners, 50 per cent in this particular experimental population developed pollen asthma. Of children in this study who had pollen asthma as well as pollenosis before the study 65 per cent of the treated group had no pollen asthma at the end of the study compared to only 14 per cent in the control group. These figures take on additional meaning in view of the fact that 85 per cent of the children referred to our clinic for non-pollen perennial asthma gave a history of mild hay fever before their asthma began. A similar study to challenge the value of hyposensitization therapy in children with perennial bronchial asthma suggests that hyposensitization therapy is of definite value. It is hoped that subsequent followup of these children will provide data on the controversial topic of whether or not allergic children tend to "outgrow" their allergies. Followup data to date show that untreated patients do not seem to "outgrow" their major allergies in significant numbers.

TABLE VI
INFLUENCE OF HYPOSENSITIZATION THERAPY IN CHILDREN WITH POLLENOSIS ON THE SUBSEQUENT DEVELOPMENT OF BRONCHIAL ASTHMA

GROUP	NUMER IN GROUP	CHILDREN WITH POLLENOSIS WITHOUT ASTHMA BEFORE STUDY	
		DEVELOPED POLLEN ASTHMA IN SPITE OF TREATMENT	DID NOT DEVELOP ASTHMA AFTER TREATMENT
Treated group	55	0%	100%
Control group	57	50%	50%

We should urge allergic children to dress sensibly in cold weather. Also we should encourage physical exercise to a reasonable degree rather than to permit allergic children to use their illness as an excuse to avoid all forms of school athletics.

Surgical operations like T&A and possible dental operations should ideally be done in a non-pollen season.

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HYPOSENSITIZATION — SEASONAL RHINITIS

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Seasonal rhinitis (hay fever) is primarily due to sensitivity to pollens. In order to treat successfully such patients, the physician should be familiar with the botany in his area. Pollen surveys have been carried out in most parts of the United States and Canada. This information is available in most standard texts on allergy. Strict criteria should be applied to suspected pollens before including them in testing or treatment procedures. In order to produce seasonal rhinitis the pollens must be abundantly produced, wind-born, not insect pollinated, and distributed over a large area. By applying these criterea many flowering trees, plants, flowers and weeds can be excluded from consideration.

In the midwest there are three pollen seasons. Beginning in early March to late May the trees pollinate. From late May to late July hay fever is primarily due to grass pollens. Early in August the fall weeds pollinate. By August 15th, most fall hay fever patients will have developed symptoms—the major cause of which are the ragweeds.

The injection treatment of hay fever and other allergic diseases is a method of increasing the tolerance of the allergic patient for the causative allergens by a series of injections of such allergens in carefully increasing graded doses. It is generally recognized that such inoculations do not reduce the sensitizing antibody (reagin) but, as a matter of fact, sometimes even produce an increase in this antibody.[24,35] The only other known immunologic change which occurs as a result of injection treatment is the development of a blocking antibody.[13] Not too much is known of the mechanism by which the blocking antibody prevents allergic symptoms, if indeed it does. Mechanisms of immunity other than a blocking antibody may be involved and may be more important than the blocking antibody. So far no studies have proved the presence of an antibody quantitatively related to the injection of pollen extract or related to levels of clinical protection. It is well known, however, that patients are improved clinically by injections of pollens to which they are sensitive, despite inadequate knowledge for its basis in immunology. The terms "hyposensitization" and "desensitization" are well entrenched in the literature of allergy, but it would seem that the process is one of immunization rather than hyposensitization or desensitization..

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INDICATIONS FOR SPECIFIC TREATMENT OF POLLINOSIS

Asthma due to pollen should be treated by inoculation as soon as the diagnosis is made, regardless of the age of the child. Seasonal hay fever alone, if mild, especially in the very young, can be treated with antihistamines and other symptomatic measures without serious risk, but it is important to keep the child under observation, since asthma may develop if patients are untreated.[16,30,39] At the first sign of increase in symptoms of hay fever or the development of lower respiratory tract symptoms, i.e., coughing and/or wheezing, specific treatment should be started.

TREATMENT OF CHILDREN GIVING POSITIVE SKIN TESTS TO POLLENS, BUT CLINICALLY FREE OF SYMPTOMS

Many patients give positive skin reactions to pollens not producing symptoms. For example, typical weed pollen cases frequently react equally well to grass pollen or tree pollen. A small percentage of these children subsequently have symptoms during these other seasons. There is little in the literature on the question of treatment of pollen cases with pollens that react positively, but for which there is no clinical history of symptoms. Many allergists incline to the belief that the patient should be treated for the clinical symptoms that fit his history and that one should not treat positive skin tests. Some believe that if a patient requires treatment for any pollens, others to which he is exposed should be included in his treatment program.[3,36] Beiderman[3] reported that 5.5 per cent of patients reacting to pollens have symptoms the following year to these pollens and that treatment before the development of symptoms prevented such symptoms completely in most cases, and in others only mild symptoms occurred. Glaser[17] states that he

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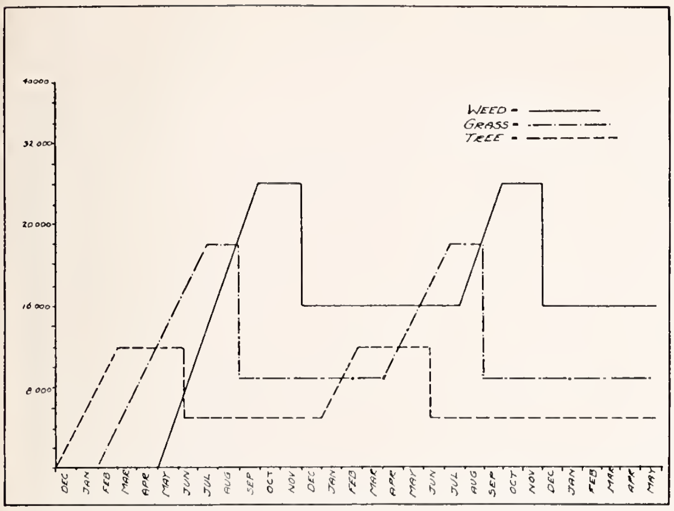

FIGURE 1. Preseasonal, seasonal and perennial dosages for "average" triple-season pollen case.

gives pollens, if the tests are positive, as a prophylactic measure to an allergic child only if receiving treatment by injection for other antigens.

The decision as to whether all positive-reacting pollens should be included in immunization treatment depends to a great extent on the method of treatment used. Those in the "small-dose" school of treatment could well include 30 or 40 pollens in a mixture without much change in their program of treatment. Believing in the "maximum tolerated dose" method,[25] I am inclined to treat only those pollens which fit the clinical history for the reason that, in order to reach a high dosage, a much larger program of treatment is involved, as shown in Figure 1.

It is evident that for each preseasonal pollen treatment a fairly large series of injections is needed to reach a high dose. For this reason, because our program of immunization is so extensive and treatment is carried to fairly high dosage, we inoculate children for positive-reacting pollens, but with a negative history for these pollens, only when injection treatment is already being given with other antigens for perennial symptoms such as allergic rhinitis, asthma, urticaria, atopic dermatitis, and the like.

Parents should be warned, however, that the child shows positive reactions not related to his clinical history and that symptoms may begin during these other seasons at any time in the future. In order to avoid misunderstanding it is important to point out to the parents that should such symptoms develop, they are not the result of the injection treatments, (since such a misconception is not uncommon).

CO-SEASONAL TREATMENT

There is a little disagreement among allergists as to the question of co-seasonal treatment when a patient presents himself for relief for the first time during a pollen season. Most are in accord with the principle of very low dosage given intradermally. This method, advocated by Phillips[31,32] and adopted with variations by others, including Hansel[18] and Rinkel,[34] has been effective in our hands.

TABLE I
COMPARISON OF METHODS OF LABELLING POLLEN EXTRACTS

DILUTION WT./VOL.	PER CENT	NOON UNITS PER CC.	TOTAL NITROGEN MG. PER CC.	PROTEIN NITROGEN UNITS PER CC.
1:10,000	0.01	100	0.001	64
1:1,000	0.1	1,000	0.01	640
1:100	1.0	10,000	0.1	6,400

100 protein nitrogen units equal approximately 150 Noon units.

The method consists in giving small doses of pollen extract intradermally at one to three-day intervals. We administer for co-seasonal treatment from 0.01 to 0.1 cc. of the 1:10,000 dilution (100 units per cubic centimeter, 0.01=1 unit*), given intracutaneously at one to three-day intervals.

This dosage is raised or lowered, depending on the size of the skin reaction and the clinical results. In less sensitive patients it may be necessary to make intradermal injections with one per cent (10,000 units per cubic centimeter) or even three per cent (30,000 units per cubic centimeter) extracts in order to obtain a skin reaction and clinical relief of sufficient degree. Our best results seem to occur when the resultant wheal is about the size of a dime, not including the surrounding erythema.

* The Unit referred to is the Noon pollen unit, based on the weight-volume method of pollen extraction, which is the simplest method of preparing a reliable pollen extract. One gram of untreated, raw, dry, clean pollen is extracted in 100 cc of extracting fluid. This yields approximately 0.1 mg. or total nitrogen per cubic centimeter and is arbitrarily labelled as containing 10,000 Noon units per cubic centimeter. In actual practice we make our extracts in 3 per cent concentration, i.e., 5 gm. per 100 cc. containing 30,000 units per cubic centimeter, or 6 per cent, containing 60,000 units per cubic centimeter, and make dilutions from these concentrates. Table 1 indicates the relationship between this unit and other commonly used methods of labelling extracts. No method of standardization of pollen extracts is perfect since the question of what constitutes the complete antigen is still unknown. A group of allergists, including this author, under the direction of Dr. Ethan Allan Brown, collaborated during the summer of 1959 in the treatment of ragweed pollen patients with emulsified extracts. For purposes of uniformity they used materials standardized on the protein nitrogen basis, so that the pooled results would be more meaningful. The pooled results are in press[15]. Our experience with emulsion therapy is given below.

PRESEASONAL TREATMENT

Much has been written about the top dose required to produce good results with pollen inoculations in children.[11, 20, 21, 25, 33] In my opinion there are two main factors controlling the top dose. The first is the degree of clinical sensitivity, reflected only roughly by the degree of skin sensitivity; the second is the area in which allergy is being practiced. Undoubtedly, those who treat hay fever on the eastern seaboard and other low pollen-count areas can achieve good results with smaller doses, owing to the lower exposure to pollens in those areas as compared to other areas where the pollen count is often extremely high. Most allergists practicing in the mid-West find that the maximum tolerated dose is the one that gives the best results. This concept, ascribed to Rockwell and quoted by Abramson,[1] has worked out best in our hands.

It is important to keep in mind that there is great individual variation in the size of the maximum tolerated dose. In general, the higher the degree of clinical sensitivity, the lower the top dose necessary to produce a good result. The degree of clinical sensitivity bears only a rough relationship to the degree of skin test sensitivity. This becomes obvious when one considers a ragweed pollen patient that reacts equally well by scratch test to both the grass pollens and the weed pollens, but gives a negative history of grass pollen hay fever. Such patients can receive large doses of grass pollen by injection without the slightest reaction. The same patient with the same size of reactions for ragweed and with a clinical history of ragweed sensitivity may be exquisitely sensitive to ragweed pollen by injection.

In other patients small or negative scratch tests are obtained, yet the degree of clinical sensitivity may be high, and general reactions occur with minimal doses of pollen. In this group of patients a possible explanation is that the major portion of the sensitizing antibody is attached to the shock organ, and that only minor amounts remain in the circulation to react at the skin test site. (This theory is completely conjectural, however, and remains to be proved.) In only a general way, therefore, does the size of the skin reaction relate to the degree of clinical sensitivity. For this reason, titration of skin sensitivity by the method of serial dilutions intradermally, in our experience, is not a worthwhile procedure for either adults or children.

We make no attempt to classify our cases rigidly according to this method as "A," "B," "C," or "D" types of clinical sensitivity.[14] On the contrary, we agree with Peshkin's[29, 30] contention that this procedure should be discontinued. It can be a misleading guide. We have adopted instead, for the past decade, a simple classification for pollen-sensitive patients, dividing them into two groups; those that react by scratch test to pollen (group "A") and those that do not (group "B"). The scratch test is carried out by using a scarifier producing uniform scratches—one like that suggested by Hill.[19] A saturated solution of raw pollen extract in 50 per cent glycerin is applied to the scratches, which have been carried out as uniformly as possible. A number of typical cases of pollen hay fever and/or asthma do not react by scratch tests, but are clinically definitely sensitive. Our procedure is to follow a negative scratch test with an intradermal test, using 0.02 of the indicated pollen extract, either a one per cent (10,000 units per cubic centimeter) or a 3 per cent (30,000 units per cubic centimeter) extract. Our patients are tested with the one per cent extract if any other pollen has reacted by the scratch method. If no other pollen has reacted by the scratch method, the three per cent extract is used for the intradermal test. When the intradermal test with these concentrations is made, one should observe the patient for a delayed reaction in 24 hours. A positive delayed reaction may be important clinically, since, in some patients negative to scratch tests, an immediate skin reaction to the intradermal test does not occur. We have rarely found a pollen-sensitive patient who failed to react positively to the three per cent pollen extract intradermally, either immediately or delayed. In patients in whom the three per cent pollen test is negative intradermally, a conjunctival test can be carried out. However, we have never seen a patient react to a conjunctival test who gave a negative reaction to a three per cent intradermal test. Those patients that react only by the intradermal test are classified as "B" cases of sensitivity.

Tables 2 and 3 indicate the approximate dosage schedules for patients in "A" and "B" groups respectively. The average child with pollinosis can tolerate approximately 0.5 to one cc. of the 1:33 dilution, equivalent to 15,000 to 30,000 pollen units. As an example of such dosages, in general a child of five years of age would receive 0.5 cc. of the 1:33 pollen extract as a top dose (15,000 Noon units). Children around 12 to 14 years of age would receive one cc. (30,000 Noon units) as the top dose.

LOCAL REACTIONS

The local reaction may be a good guide to increase in dosage, provided several of the fallacies involved in this conception are considered. Unless the antigenic material injected is deposited at the same depth under the skin each time, considerable variation in the extent of the local reaction can occur with the same dosage. As pointed out many years ago by Thommen,[12] the skin being the most

Table II

Schedule of Pollen Infections for Patients Reacting to Scratch Tests (Group "A" Patients)

DOSE	NOON UNITS	CC.	BOTTLE	UNITS PER. CC.	DILUTION WT./VOL.
1st	5	0.05	No. 1	100	1:10,000
2nd	10	0.1			
3rd	20	0.2			
4th	35	0.35			
5th	60	0.6			
6th	100	0.1	No. 2	1,000	1:1,000
7th	150	0.15			
8th	250	0.25			
9th	400	0.4			
10th	650	0.65			
11th	1,000	0.1	No. 3	10,000	1:100
12th	1,500	0.15			
13th	2,000	0.2			
14th	3,000	0.3			
15th	4,000	0.4			
16th	5,000	0.5			
17th	6,500	0.65			
18th	8,000	0.8			
19th	9,000	0.3	No. 4	30,000	1:33 (3%)
20th	10,500	0.35			
21st	13,500	0.45			
22nd	16,500	0.55			
23rd	21,000	0.7			
24th	25,500	0.85			
25th	30,000	1.0			

This schedule is approximate for cases reacting to scratch tests. Initial and top doses will be lower for more sensitive patients.

reactive of the superficial tissues, the closer the injection is to the surface, the greater the local reaction. This can be demonstrated by administering the same dose of pollen extract to a patient on one occasion superficially and on another occasion intramuscularly, resulting in a larger local reaction in the case of the superficial injection and much less local reaction in the case of the intramuscular injection. In our experience, general reactions do not occur more commonly with intramuscular injections than with subcutaneous injections.[25] It has been shown that the absorption of pollen extract[23] and other injected material[26] is not invariably faster when given intramuscularly, but indeed may even be more slowly absorbed when given intramuscularly. For these reasons—greater reactivity closer to the surface and no more rapid absorption, nor increase in general reactions when the extract is given intramuscularly—we give all our immunizing injections intramuscularly into the triceps muscle.

Another common cause of local reaction is the use of extracts containing 50 per cent glycerin, which is an irritant. In small volumes the amount of glycerin present may not produce much local reaction. Because we use fairly large volumes of pollen extract, from 0.5 to one cc. in children and even larger doses in adults, we have discontinued the use of glycerinated extracts for many years. We use pollen extracts prepared in a non-irritating alkaline five per cent dextrose solution, as evolved by Unger and Moore.[37] We have seen no mold or bacterial contamination of these extracts in the many years in which we have had experience with this extracting fluid.

DOSAGE OF POLLEN EXTRACTS FOR PATIENTS NOT REACTING BY SCRATCH TESTS

Because most patients not sensitive by scratch test can follow the schedule outlined in Table 3, many injections are saved in reaching a large dosage. It seems unreasonable that, after making an intradermal skin test with 200 or 600 units of pollen extract (0.02 cc., 10,000 units per cubic centimeter = 200 units; 0.02 cc., 30,000 units per cubic centimeter = 600 units), one should begin immunization with five units or less. For this reason we have adopted the schedule as indicated in Table 3 with fairly large increments. One should not follow either schedule arbitrarily. We have started patients on schedule "A" and after one or two injections mild generalized symptoms have occurred which indicated a high degree of sensitivity. Such patients should be restarted on 1:100,000 (10 units per cubic centimeter) or 1:1,000,000 (one unit per cubic centimeter) extracts. We have treated a number of children whose maximum tolerated dose was from one-half to one unit. On the other hand,

Table III

Schedule of Pollen Injections for Patients not Reacting to Scratch Tests (Group "B" Patients)

DOSE	NOON UNITS	CC.	BOTTLE	UNITS PER CC.	DILUTION WT./VOL.
1st	100	0.1	No. 2	1,000	1:1,000
2nd	200	0.2			
3rd	400	0.4			
4th	800	0.8			
5th	1,500	0.15	No. 3	10,000	1:100
6th	2,500	0.25			
7th	4,000	0.4			
8th	5,500	0.55			
9th	7,000	0.7			
10th	9,000	0.3	No. 4	30,000	1:33
11th	10,500	0.35			
12th	12,000	0.4			
13th	15,000	0.5			
14th	18,000	0.6			
15th	21,000	0.7			
16th	25,500	0.85			
17th	30,000	1.0			

This schedule is approximate for patients not reacting to scratch tests.

we have had patients who reacted well by scratch tests and therefore were started on schedule "A," who did not achieve good results unless they were carried to doses even higher than 30,000 pollen units. We have had similar experiences with patients assumed to be of "B" class sensitivity because they reacted only by a strong one or three per cent) intradermal skin test. On the first or second immunizing injection of 100 or 200 units, constitutional symptoms have occurred in occasional instances. Should this happen, the patient is immediately reclassified and treated as type "A" sensitivity. In general, one can say that any classification provides only a rough idea as to the degree of clinical sensitivity and reinforces a statement which has appeared many times in the literature to the effect that the size of the skin test reaction is not a true test of the degree of clinical sensitivity. One should not follow any dosage schedule rigidly. The treatment must be tailored to fit the individual patient based on a combination of observations i.e. reactions to skin tests and to early doses of pollen extract; and subsequently to the progress of the patient and relief of symptoms.

The dose of pollen extract necessary in children bears no relationship, except in a general way, to the weight and age of the child. Many children in our practice tolerate and require larger doses than some adults, to achieve good results.

Preseasonal treatment should be begun long enough before the pollen season so that the estimated top dosage can be reached before the pollen season. This may require one or two injections a week, depending on when treatment was started. We continue with the top dose once or twice weekly during the pollen seasons unless there is evidence that injections aggravate the hay fever or asthma. There is a small percentage of pollen-sensitive patients who are definitely made worse by receiving the top dose of pollens during the pollen season. In these patients we initially halve the dose. In rare cases it may be necessary to reduce the dose even further in order to avoid general reactions when the patient is exposed to pollen while receiving injections. We have never seen a patient in whom the injections had to be discontinued completely during a pollen season.

PERENNIAL TREATMENT OF POLLINOSIS

When the pollen season is over, we routinely halve the dose and administer the half-dose at intervals of every three weeks until about five or six weeks before the next pollen season. We then increase the dosage weekly until the top dose is again reached in time for the pollen season.

PATIENTS SENSITIVE TO MORE THAN ONE POLLEN SEASON

We treat each pollen season separately, first increasing the dosage of the tree pollens if the patient is sensitive to this group, maintaining it at the top dose during the tree season, and lowering it to one-half during the rest of the year at a three-week interval. The same is done for the grass and ragweed seasons, as shown in Figure 1.

POLLEN MIXTURES

Pollens of plants which are closely related botanically are prepared in the same extracts. Thus we prepare separate mixtures of tree pollens, grass pollens and weed pollens. We are not in agreement with the practice commonly in use of preparing mixtures of unrelated pollens, since the use of mixtures of immunologically unrelated pollens does not generally produce good clinical results in areas of high pollen counts. There are some patients exquisitely sensitive to pollens of one season and not as sensitive to pollens of another season. In order to avoid reactions from injections of such a mixture, one would need to use very weak dilutions for the entire group of allergens or prepare the mixture by using varying strengths of different pollen extracts. Mixtures of several unrelated pollen groups result in a proportionate reduction in the representation of any single pollen group in a given dose of the mixture. This would mean that the patient would receive only small amounts of the less potent allergens for some of the pollen seasons. In order to increase the pollen dosage for any particular season, it would be necessary to carry along other pollens in the mixture beyond the time when it is necessary to keep the dosage for the earlier seasons at a high level. For these reasons we have found the administration of mixtures of unrelated pollen allergens to be generally unsatisfactory. However, when a child is being treated with several antigens, it is convenient to combine them in one or two syringes so that the number of injections can be lessened. This is usually done by drawing up the required dosage of each of the different antigens in the same syringe at the time of injection. This makes for complete flexibility in treatment. Should local or general reactions occur, one can readily detect which of the antigens should be lowered by the method of subtraction or addition of the antigen to the mixture in the syringe. Our practice is not to give more than two injections to a child on the same visit regardless of the number of antigens mixed in the syringes being administered at one time.

PRECAUTIONS AFTER POLLEN INJECTIONS

The same precautions must be followed after the injection of a pollen extract as for any other allergenic material. The patient should wait in the office for 20 minutes after each treatment. Epinephrine, 1:1000, must be available for immediate injection. The treatment of a general (constitutional) reaction and the precautions necessary to avoid such reactions can be found in all standard texts on allergy.

Our experience in using high-dose treatment is much the same as that reported by others, that the tendency to reactions occurs at the lower dosage levels, apparently before some degree of immunity is established. General reactions at the higher levels are much less frequent, provided proper precautions are taken as to vascular puncture. Many hundreds of patients have tolerated extraordinarily well the administration of these doses of pollen extracts with extremely rare general or local reactions even when all are administered together every three weeks during the winter months. During the past 10 years over 50,000 pollen injections have been administered to our clinic patients. During this period of time, epinephrine injections to overcome a constitutional reaction following pollen treatment have been administered 16 times, or at the rate of about one reaction per 3,000 injections. General reactions in our private practice has occurred about as rarely. The infrequency of systemic reactions in our practice has not been the result of including in each injection a small dose of epinephrine, as others have advocated. We are not in agreement with the practice of routinely including small amounts of epinephrine in pollen injections as a method of avoiding reactions. Many children develop extreme pallor, nausea, vomiting and even shocklike symptoms as a result of even small injections of epinephrine. Ethylnorepinephrine hydrochloride (Bronkonephrine) generally does not cause such symptoms. For this reason, in order to lessen the tendency to reactions in those patients exhibiting extreme sensitivity, we prefer to incorporate in each antigen injection administered a small amount of an antihistaminic agent, with or without Bronkonephrine.

EMULSIFIED REPOSITORY POLLEN INJECTIONS

Brown[4–10] and Loveless[27] have reported on the method of single annual inoculations of pollen emulsified in oil in the treatment of pollinosis. The method appears to offer great promise. In a recent paper[9] Brown reported on an improved method of making emulsions of pollen. Briefly, this is the emulsification of the appropriate pollen extract in a 50 per cent oil and water mixture. The materials used are 1.8 cc. of mineral oil (Drakeol, VR 6, Pennsylvania Refining Company) and 0.2 cc of the emulsifying agent, mannide mono-oleate (Arlacel A, Atlas Powder Company) instead of Atreol and Falba. To two cc of this mixture is added an equal amount, that is two cc of the extract prepared in buffered saline free of glycerol. This method uses two 10 cc syringes connected by a double-hub 18, 20, 22 or 24 gauge hypodermic needle. As the mixture is passed back and forth the turbulence emulsifies the extract and the oil. There is no danger of contamination since the system is entirely closed. The smaller the gauge double-hub needle used, the better the emulsion. Brown recently invented a servomechanism machine which under pressures up to 30 pounds can pass the oil and aqueous mixture through a double-hub 24 gauge needle producing emulsification which is more than 99 per cent perfect.[10] A number of criteria should be applied to the emulsified extract before using it clinically. Such emulsions do not produce positive skin tests in patients sensitive to the pollen by the scratch method. Microscopic examination reveals very minute uniform water-and-oil drops and containing no aqueous phase.

I have personally observed Brown's method in operation on several occasions and have watched him treat many patients with doses up to 10,000 protein nitrogen units per cc. without local or general reactions. In the emulsions formerly made with Atreol and Falba, local reactions were common and a small percentage of such patients developed persistent nodules and "lumps." A few of these formed cold abscesses requiring aspiration or surgical drainage. No such difficulties have arisen with the Drakeol-Arlecel mixtures.

During the summer of 1959, I began the use of the emulsified method for ragweed pollen patients, and have since then extended it to the treatment of dust and mold patients, following Brown's directions.[10] In approximately 200 injections so far, about 50 per cent of which were in children, very few local reactions have occurred. Four general reactions occurred following the injection of emulsified ragweed, all of which were mild and consisted of a few scattered urticaria except for one boy age 15 years who developed a severe generalized urticaria lasting a few hours. The latter patient received double the dose indicated by his skin test reactions. In all patients who had a general reaction, none have refused treatment for the following year. The results with emulsified extracts have been equal to, if not better than, the conventional multiple dose method.

There are two important considerations in treating patients with emulsified extracts of any antigen; the first is the preparation of a nearly perfect emulsion so that very little free antigen is available for immediate absorption. The second, and equally major consideration is the determination of the proper dosage.

We have followed Brown's criteria with only slight modification in determining the dosage which is done by skin testing. The first is a pressure puncture or scratch test with a 20,000 Protein Nitrogen Unit /1.0 cc. solution. Should this elicit no wheal, then an intracutaneous test with a 100 P.N.U. /1.0 cc. concentration is done. Should this again elicit no reaction then 1,000 and 10,000 P.N.U. /1.0 cc. extracts are similarly used. Depending on which of the four tests results in a positive skin test response, the patient receives either 2,500, 5,000, 7,500 or 10,000 P.N.U. All patients reacting to a scratch test receive not over 2,500 protein nitrogen units. Some have received less when previous experience has indicated intolerance to doses of five units or less by the conventional method. Earlier in this paper we have underscored the fact that the skin test is not a true reflection of the patient's sensitivity. However, some guide is necessary in using any method of treatment, multiple dose or emulsions. Undoubtedly, a number of patients who react with a scratch test or weak intradermal tests, could take larger doses of emulsified extracts and may be undertreated.

The conjunctival test is useful in those patients giving a history of opthalmic symptoms. These patients can be tested with serial dilutions beginning with five up to 20,000 P.N.U. per cc. If there is a response at or below 80 P.N.U. per cc. it suggests a dosage of 2,500 units or below. In all cases the emulsified extract should be so made that one cc. of the emulsion contains the entire dosage. In this way the absorption time, regardless of the dosage, is constant. The emulsion must be injected deep subcutaneously or intramuscularly. One should be very careful about injections into the skin which may result in severe local reactions and possible abscess formation.

The emulsification method of administering allergens is an important step forward in the treatment of allergic patients and is undoubtedly here to stay. It should be approached cautiously and with respect, and should not be undertaken by the inexperienced.

EFFECT OF INOCULATION TREATMENT ON SKIN TEST SENSITIVITY

Skin test reactions are not a criterion for "cure," but most patients on high-dose treatment who are symptom-free do show a diminution of skin test sensitivity.[2, 22, 38]

TERMINATION OF TREATMENT FOR HAY FEVER

The problem always arises, when treating an allergic child, as to when the inoculations should be terminated. Our rule is that after one year of complete freedom from symptoms, using the perennial method outlined above, which includes in the injections all indicated antigens, we continue treatment at three-week intervals for an additional year. During this last year of treatment we do not increase the dose or decrease the interval before the pollen seasons. This requires approximately 17 injections for the entire year. If the patient is still free of symptoms, treatment is discontinued.

Our experience with high-dose treatment is that most children with hay fever and/or asthma can be given 80 to 90 per cent relief the first year of treatment and can stop treatment permanently in 50 per cent of cases in three to five years of continuous perennial high-dose therapy. The development of asthma in hay fever patients thoroughly treated rarely occurs. Asthma already present generally clears up as readily as or sooner than the hay fever symptoms. Patients exquisitely sensitive and unable to tolerate high-dose treatment obtain good relief, but "cures" require considerably more time, occasionally many years.

Enough data has not been accumulated to answer the question as to whether treatment with emulsified injections will shorten the period of treatment necessary to obtain "cures." Brown[10] has reported that several patients have remained free of symptoms for one or more years after a single treatment with an emulsified pollen extract.

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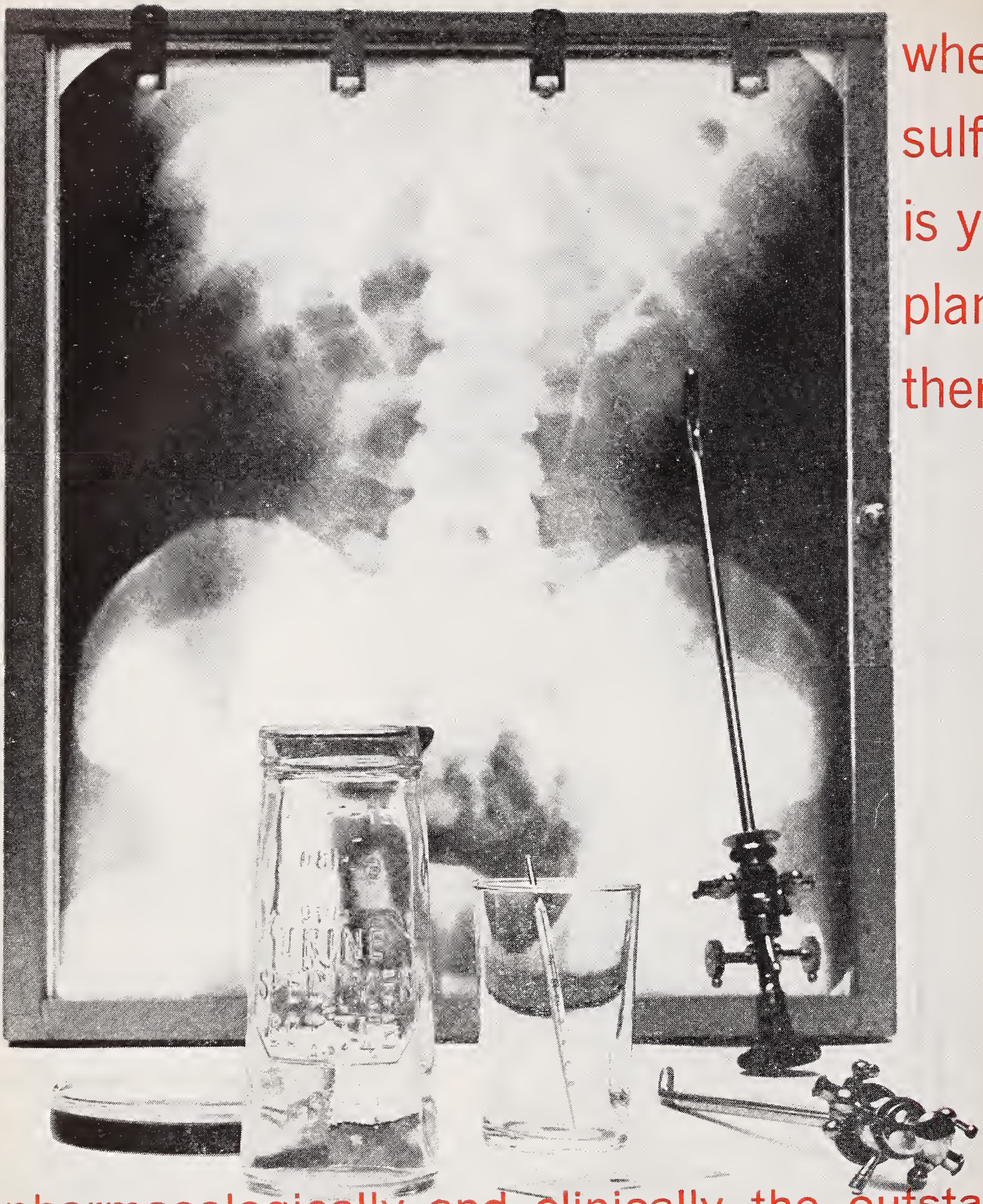

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FOOD ALLERGY AND THE ELIMINATION DIET

Frederic Speer, M.D., *Kansas City, Kansas*

Despite the fact that the term allergy was coined by von Pirquet only half a century ago, we may be sure that it has always been with us. I was called on to review the history of one phase of allergy not long ago and was able to find evidence that people were known to be intolerant to certain foods as far back as the time of Pythagoras.[2] And throughout the centuries physicians have recognized the fact that many people present idiosyncrasy to ordinarily harmless articles of diet. It is well established that one man's meat may indeed be another man's poison.

Although food allergy is apparently of the same fundamental nature as allergy in general, it has clear-cut characteristics of its own. Four are of outstanding significance:

1. Food allergens tend to cause widespread constitutional manifestations. In contrast to inhalant allergy, in which pathology is usually limited to the respiratory system, the patient allergic to foods is likely to have involvement of a number of body systems. In severe cases we may find manifestations in the gastrointestinal tract, the skin, the nervous system, and respiratory tract. Commonly we encounter a bewildering variety of diffuse complaints which make the patient—or his mother—appear "neurotic."[3]

2. Food allergens are not usually identifiable by skin tests.[1] Unless the patient is so sensitive to a food that it is an obvious offender to him or his family, skin tests are usually negative. We must, therefore, rely on the tedious and indirect method of diet elimination study in most cases.

3. Tolerance to food allergens tends to vary. On exposure to inhalants, the sensitized patient usually reacts in predictable fashion. For example, the ragweed patient may be depended on to react in the same way every time he inhales ragweed pollen. But the reaction of the food patient often depends on such factors as temperature change (especially chilling), infection, frequency of ingestion, and inhalant load. We commonly see this with milk. The patient can take it at spaced intervals, but must avoid it when pollen peaks appear or when he is chilled or has a cold.

4. Food allergy does not lend itself to hyposensitization. The methods of hyposensitization (or immunization as Doctor Levin prefers to say) that are applied in inhalant allergy may not be used in food allergy. There are no "allergy shots" in food allergy and what has been called oral desensitization has not worked out.

MANIFESTATIONS OF FOOD ALLERGY

Although generalizations are dangerous, it would be safe to say that the patient who has a multitude of allergic complaints and has them throughout the year has, until proved otherwise, one or more food allergies. The common manifestations likely to be caused by foods are outlined as follows:

Respiratory: Asthma, cough, nasal blocking and discharge. In inhalant sensitivity, nasal itching and sneezing are universally present, but are much less common in food allergy. Bronchial symptoms from foods are likely to be worse at night.

Gastrointestinal: Diarrhea, constipation, distension, pain, foul breath, geographic tongue, aphthae, melena.

Skin: Eczema, urticaria, angioedema, rarely purpura.

Nervous System: Headache (frontal or temporal), tension and fatigue. Rarely, convulsions.

Miscellaneous: Pallor, excessive sweating, enuresis and urinary frequency. Vulva irritation. Eosinophilia and leukopenia.

FOOD ALLERGENS

The bacteriologist must know microorganisms and the toxicologist must know poisons. The allergist must know allergens, but he must not only know pollens, molds and other inhalants, but he must know foods. He must know how they are related, where they are found and which are most common.

1. *Relationship of Foods:*

When foods are considered just as foods, as they are by grocers, dieticians, and housewives, they are classified as vegetables, fruits, sea food, cereals,

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meats, nuts, spices, and beverages. But to the allergist this classification has little meaning. He is interested in *biologic classification.* As with inhalant allergens, food allergens tend strongly to react according to their family relationships. This is especially true of certain families such as the citrus family and legumes. The following list includes the common food allergens. For unusual foods the reader may consult Vaughan.[4]

Apple family: Apple and pear.
Aster family: Lettuce.
Banana family: Banana.
Beet family: Beet and spinach.
Blueberry family: Blueberry and cranberry.
Buckwheat family: Buckwheat and rhubarb.
Cashew family: Cashew and pistachio.
Chocolate family: Chocolate and cola drinks.
Citrus family: Orange, lemon, lime, grapefruit.
Grains: Corn, wheat, rice, rye, barley, oats.
Grape family: Grape (raisin).
Laurel family: Cinnamon and bay leaf.
Melon family: Cucumber and other melons
Mint family: Peppermint, thyme, sage.
Morning glory family: Sweet potato.
Mustard family: Cabbage, cauliflower, broccoli, Brussels sprouts, turnip, radish, mustard.
Olive family: Ripe and green olives.
Onion family: Onion, garlic, asparagus.
Parsley family: Carrot and celery.
Pea family: Pea, bean, peanut.
Pepper family: Black and white pepper.
Pineapple family: Pineapple.
Plum family: Plum (prune), peach, apricot, cherry, almond.
Potato family: Potato, tomato, egg plant, peppers.
Rose family: Strawberry, raspberry, blackberry.

Birds. Birds are in several families. Patients sensitive to the meat of one species seem to react to all, but there is little if any relation between sensitivity to chicken and sensitivity to egg.

Crustaceans. The members of the various families of crayfish are closely related. Include shrimp, crab, lobster.

Fish. Edible fish come from a large number of families. They have a strong tendency to cross-react.

Mammals. Mammalian milks are closely related antigenically, but this relationship is much less strong among meats. The relation between meat and milk in a given species is weak. Patients sensitive to beef seem always to be sensitive to milk, but the reverse applies only occasionally.

2. *Sources of Foods*

Both the physician and the patient must know where foods are to be found before elimination studies can be made. This is no problem with such foods as banana or pork, but with milk and egg the modern complexities of food manufacture make it necessary that sources be known. In the following list the uses of the common foods will be shown.

Milk: Milk, buttermilk, ice cream, sherbet, creamed foods. Traces of milk in butter and bread are rarely if ever significant.

Chocolate and *Cola:* Chocolate and cocoa and all drinks which contain cola (kola nut) extract.

Corn: Corn meal, corn syrup (almost all commercially sweetened foods such as candy, cookies, canned fruit, chewing gum, frankfurters, etc.), corn cereals, corn starch, tortillas and Fritos, hominy, popcorn, canned corn and corn on cob. Many patients do not tolerate corn oil.

Wheat: All ordinary baked foods and pastries; Cereals, gravy, breaded and floured foods, macaroni, spaghetti, noodles. Even rye bread and corn bread contain wheat.

Egg: Many baked foods (doughnuts, cookies, cake, waffles), noodles, breaded foods, mayonnaise, salad dressings, ice cream, custard, meat loaf, croquettes, icings, some candies.

Although these lists are by no means complete, they show the care with which food elimination must be done. Complete lists may be obtained from the Ralston Company, Checkerboard Square, St. Louis 2, Missouri.

3. *Incidence of Food Allergens*

The following list represents the commoner food allergens identified in a series of 360 children with all types of allergy, seen in clinic and office practice.

Total	360
Milk	236
Chocolate, cola	183
Corn	113
Egg	104
Legumes (pea family)	84
Citrus	77
Tomato	43
Wheat*	41
Colors	35
Cinnamon	33
Apple	20
Beef	18
Fish	17
Banana	17
Grape	17
Pork	13
Walnut-pecan	13
Pineapple	12
Strawberry	12
Melons	11
Carrot, celery	8
White potato	8

* Many wheat patients do not tolerate oats, rice, barley, rye.

ELIMINATION STUDIES

With a background knowledge of the common clinical manifestations and the common allergens, we may proceed to consider the technique of elimination testing. Since this is entirely a clinical method, a thorough history is basic. A careful search for clues to hidden food allergens is made. In the infancy history we are especially likely to find evidence against foods, because it is on first contact with such things as milk, cereals, and egg that trouble arises. A history of colic, vomiting, eczema or other manifestations may often be closely correlated with a specific food. Any suspicion the mother may have of reaction to food at any time should be noted. At times the child may seem simply to be "upset" in some vague way by a food which later proves related to some such serious reaction as asthma.

After all information gleaned from the history has been recorded, elimination testing is begun. I ordinarily remove all suspicious foods at the same time. After a week one may be returned, and at two or three day intervals the others are added. The parents are directed to observe the child for improvement in manifestations during abstinence. Symptoms the child has every day are especially useful. His chief difficulty may be recurrent asthma, but his *daily* tension, pallor, abdominal pain or other minor complaint is much more likely to give clues as to improvement.

In most cases, improvement noted from abstinence alone is sufficient to indicate the offending foods, but a return of symptoms with return to the food is necessary to clinch the diagnosis. In mild cases with variable tolerance, testing often must be repeated several times before the food is identified with certainty.

If there are no clues from the history, it is wise to consider foods in the order of their incidence, usually one at a time. In new patients known to be resistant to ordinary allergy treatment, I eliminate all the common offenders, taking out milk, chocolate, cola, grains, egg, legumes, food colors (pop, Koolade, etc.), cinnamon, and citrus fruits.

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STEROID THERAPY IN CHILDHOOD ALLERGY

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Let me begin by saying that corticosteroid therapy is a crutch to get the patient over a bad spot rather than a vehicle to carry him safely to his destination, justification there may be, in some conditions, for prolonged steroid therapy. However, this justification does not occur in the great majority of the eczemas in early life. Here we will find usually that the remedy is worse than the disease.

If there is any doubt of the above statement, it should be dispelled by a perusal of the harmful manifestations which may follow prolongeed use of this therapy. Forsham[1] lists as possible side effects the following formidable array: Cardiac failure, diabetes, psychoses, peptic ulcer, thromboses, osteoporosis, spontaneous fractures, especially of the spinal vertebrae, muscle wasting, and marked general asthenia. Add to this such manifestations as hirsutism, moon facies, and buffalo hump and we surely have a menacing picture. The longer the treatment is continued the more likely we are to encounter one or more of these complications.

McKay and Dees,[2] after an analysis of a series of 210 children concluded: "The serious side effects and the difficulties of withdrawal of corticosteroids, after prolonged use, so far outweigh the benefits that they detract from the general usefulness of these drugs in allergic children. The continuous use of adrenocorticoids, for more than short periods of time is hazardous, they should be reserved for acute emergencies and special circumstances."

It would seem, at this time, as if all physicians should realize that steroid therapy is not a substitute for a careful allergic study of the patient. It should be appreciated first, that this is a measure often attended by very serious hazards, and, second that it is only a palliative measure, upon cessation of treatment the condition characteristically recurs promptly and with undiminished severity.

Are there times when steroids may properly be used? There are, it seems to me, three situations in which we may take advantage of the prompt relief afforded by this type of treatment. These situations are as follows: 1) When we have limitee areas of eczema, topical steroids may be used with safety. 2) During periods when it is essential to give temporary relief to a very acute phase of eczema. 3) In cases of eczema in infants under three months of age, these constitute a special and unique group, in which the benefit derived from steroid therapy is not fleeting. The initial benefit persists for long periods of time, even after the steroids have been discontinued.

I[3] reporteed a series in this group in 1954. I will review briefly my findings at that time, with a report of the subsequent history of this group. The treatment here was a combination of dietary and steroid therapy. The comparative simplicity of the diet at this early age rendered the recognition of the dietary factor possible as a rule.

The routine followed on 31 cases reported at that time was this. The dietary factor was omitted, suitable doses of steroid were started. I used 25 milligrams of cortisone three times daily until the skin was clear, usually about a week was required. Then every third or fourth day the dose of cortisone was reduced twelve and a half milligrams until the steroid was completely eliminated. Concurrently the offending protein was gradually replaced. In a period of from four to six weeks the cortisone had been administered and gradually discontinued. The offending food had been omitted and gradually restored to the diet.

The above manoeuvres resulted in clearing the skin in a few weeks. In no case did the condition relapse when the treatment was discontinued. This series included 31 cases of eczema in infants under three months of age. I have been able to follow 20 of the patients for five years. Sixteen of this group of 20 have shown no recurrence of the eczema nor any other allergic manifestation. None of the group showed any of the side effects usually associated with steroid therapy.

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THE TREATMENT OF INSTITUTIONALIZED CHILDREN WITH INTRACTABLE ASTHMA

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There are at least 50 million children up to 15 years of age in this country, 20 per cent of whom suffer from some form of allergy.[1] Ten per cent of the childhood population, or five million children are in need of treatment and at least 2½ million of whom have asthma and hay fever. Thus, allergy is a common American ailment. Asthma and hay fever are the most common major allergies of childhood, and it is the physician's responsibility to diagnose and treat them early and to treat them intelligently. About 90 per cent of all children suffering from allergic bronchial asthma with or without hay fever respond favorably to modern medical therapy. Thus, about 10 per cent of all asthmatic children suffer from a form of asthma which is protracted and severe over a long period of time despite appropriate formal treatment. This kind of asthma is referred to as "intractable."[2] This paper describes the method of treatment which has been developed over a period of 30 years for the rehabilitation of children crippled with intractable bronchial asthma. The worst thing about intractable asthma of childhood has been that the outlook for recovery, remission or relief is extraordinarily poor and the doctor could offer no hope that ultimate recovery would take place.

In 1930, my attempts to aid children with intractable asthma, I subjected a group of children with this condition who were usually in "status asthmaticus" to removal from their home environments to hospitalization on the wards of the Mt. Sinai Hospital of New York City. Without any other treatment, nearly all of these children experienced complete and dramatic relief from asthmatic symptoms within the first three days after their admission to the hospital and they continued to have freedom from asthma for as long as they stayed in the hospital. Since some of the children came from homes which were only 100 feet away from the hospital, and others lived within a few miles of the hospital, I knew that within these geographic limits there was no climatic condition which could account for the observed results. I originally believed that perhaps the physical removal of the child with intractable asthma from a hyperallergenic home environment to a hypoallergenic hospital accounted for the benefits which he experienced in the hospital. As a result, I saw to it that the most scrupulous attempts were made to render the child's home and environment as hypoallergenic as possible by the removal of all furniture, draperies, carpets, articles of apparel, toys and other objects which might have been the source of allergens to which the child might have been hypersensitive. Despite all these precautions including what is considered to constitute adequate hyposensitization therapy, the child had been free of his allergic bronchial asthma in the hospital nearly always developed asthma the night of his homecoming or, at the very latest, within several days of his release from the hospital.

Because removal of a child with intractable asthma from his home environment was so efficacious in alleviating his asthma, in 1930 I concluded that environmental separation aided the child's recovery when specific antiallergic therapy directed toward the relief or "cure" of his asthmatic condition failed. Thus, at that time I stated that "until newer methods of treatment are advanced which will successfully control or free this group of children from asthma, the establishment of a "Home" for intractable asthmatic children is regarded as a humane, urgent, economic necessity as well as a therapeutic measure of definite value."[3]

Until 1935, in the study of this remarkable phenomenon of the relief of intractable asthma in children by the separation of them from their home environments, I was continuously searching for a possible physical allergen which was present in a child's home but not present in a convalescent home. It was not until 1935 that it occurred to me that perhaps the most powerful factors that were operative to the "cure" by separation of the child from his home environment, were psychological.[4] In this day of enlightened psychosomatic medicine, this discovery perhaps does not sound revolution-

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ary, but at the time I first made and announced my basic observations on the part that emotional factors played in the production of intractable asthma in children, it was regarded by many as heretical. When I repeatedly observed a child in a convalescent home rendered symptom-free by his separation from his home environment and that a visit by his mother could precipitate a major attack of asthma, I realized then more than ever before that hospitalization and removal of the child to a convalescent home was in effect the separation of the child from the asthmatogenic emotional climate which existed in the child's own home and that it was this adverse psychogenic factor which was principally responsible for pushing the asthmatic child into a state of intractable asthma.

As a result of the very desperate need of children with intractable asthma whom I have seen in ever increasing numbers, since 1940, I initiated and established at the nonsectarian Jewish National Home for Asthmatic Children at Denver, Colorado, a definitive program designed to rehabilitate the child with intractable asthma. In the remainder of this paper when I refer to the "Home" I am referring to this institution.

The "Home" is located on the eastern slope of the Rocky Mountains on a seventeen and a half acre tract in the western part of the city of Denver. The location is in a residential district and close to the public schools of the city. Fifteen buildings including eight cottages for residence of the children house a total of 150 children. The "Home's" facilities include a laundry plant, central heating, a well equipped 19 bed hospital and a separate building housing the dining rooms and kitchen which allows serving the children at one sitting. In addition, there is a building for the administrative offices and the administrator's cottage. There are recreation fields where the children are allowed to play. Last year a separate modern building was erected which houses the Research Allergy Institute.

In each cottage there is one "house parent" for 12 children from 12 to 15 years of age and one "house parent" for eight children under 12 years of age. In general, female "house parents" take care of all the girls and the younger boys. Male "house parents" are provided for the older boys. House parents are usually between the ages of 40 and 55 years, usually are or have been married and are selected because they show traits which include kindness, patience, love for children, and sufficient reasonableness to exercise authority to get the children to obey willingly. Most of the house parents are mothers or fathers themselves with grown children. These house parents are carefully trained while on the job to allow them to understand physical and emotional aspects of chronic asthma in childhood and the special problems these create. This training is a continuing process under the supervision of the Medical and Research Director and the psychological service of the "Home."[3]

At all times an effort is made to strengthen the role of the house parent in a manner best designed to recreate for the child during his residence the feeling that there is indeed a parent surrogate who functions in all respects as does the true parent. This is a matter for continuing re-examination and research.

A fully equipped occupational set-up is also utilized for the correction of postural defects and for the strengthening of those areas of skeletal structure which are defective, using the best methods available for this purpose. This includes not only breathing exercises but other physical activities individually adapted for the child's needs.

The religious and spiritual guidance of the children form an important part of the overall management of the child.

The medical services are directed by the Medical and Research Director, Dr. Samuel C. Bukantz, who presently has on his staff two full time senior staff pediatricians, training fellows in pediatric allergy, a dentist and attending dermatologist, otolaryngologist, ophthalmologist, radiologist and pediatrician. There is a rotation of night time resident service among the junior and senior staffs, so that there is always 24-hour medical staff coverage at the "Home" to deal with any emergency as quickly as it may arise. This coverage assumes more importance since the advent of cortico-steriods in the treatment of asthma. A large percentage of the patients arrive while still on maintenance dosage of these anti-inflammatory drugs, and virtually 100 per cent of them have had the drug at some time or another before admission to the "Home." Some 50 per cent of the children may have the steroid drug withdrawn within the first two months of admission, and a 25 per cent additional percentage in the four to six months thereafter. This leaves, however, what seems to be an irreducible minimum of children who continue to require steroids for a long time, many in former years for the duration of their stay. This is so despite the fact that frequent efforts are made to reduce and eliminate the steroids from the therapeutic armamentarium as soon as other therapeutic measures have been in use long enough to have become effective.[5]

Hyposensitization with pollens and molds is given to about 25 per cent of the children and this is carried out in accordance with formal medical practice. Initially, re-evaluation of the allergy state by various methods of skin testing is done. During the first six months of residence antiallergic treatment is usually withheld in favor of observation.

When definite pollen and mold intolerance is established appropriate hyposensitization is instituted. The treatment is effective in contrast to failure of the patient to respond favorably in his own home. Even though Denver is a mile high city, the atmospheric pollen and mold concentration nearly always exceeds many areas of the country from which the children originally came. The "Home" has admitted 31 children from the areas within the Rocky Mountain region where the climate is quite similar to that of Denver. These children lost their intractable asthma in residence at the "Home." Thus, climate plays a negligible role in the eventual therapeutic results achieved.

Psychotherapy is often the most important phase of the rehabilitation program. The psychiatric service consists of a staff psychiatrist and a consulting psychiatrist. The psychological service is administered by Dr. Lewis Bernstein (Ph.D.), Director of Psychological Services, assisted by six psychologists charged with the responsibility for the organization of psychodiagnostic and psychotherapeutic services and the development of research in this field.

Every child admitted to the "Home" is seen shortly after admission by a senior clinical psychologist, together with the Medical Director and the assigned pediatrician, and the child's notions and attitudes explored in a general fashion. Misconceptions, misgivings and immediate moments of homesickness are dealt with at these levels initially, and in this regard the houseparent and the children with whom the new patient will take residence are also involved in the group adaptation function. The child is then referred for a complete psychodiagnostic survey, which may be performed in one to three sessions and includes an interview and the application of a battery of intelligence and projective tests. These are then evaluated by the junior psychologists and presented in conference with the senior psychologist, and a report describing the observations is drafted for the Medical Director's office for transmittal to the referring physician and agencies involved in the referral.

During this same period the senior pediatrician who had seen the child immediately upon admission makes a complete examination, and reviews all the findings on the referring physician's report. These are then assembled in a report to which are added observations during the course of residence within the first several weeks, response to group living, and the results of a complete re-evaluation of skin testing with inhalant and ingestant allergens. A conference is then held by the medical staff, all the data are reviewd, and a tentative outline of therapy and program for the child is outlined. The Medical Director assembles all the data and sends them with his recommendations to the professional persons who referred the child to the "Home." At the same time a letter is written to the parents advising them that a report has been sent to their referring physician and suggesting that they consult him for an interpretation of findings to date. Thereafter the medical staff is responsible for providing bi-monthly reports on growth and nutritional development and the general health of the patient during his residence in the institution. There are, of course, frequent conferences with the psychological services as special events arise which are brought to the attention of the Medical Director, evaluated by the medical staff first, and then referred to the psychologist.

Nursing Service: The hospital area is staffed by a complete corps of nursing personnel who operate in the usual three shifts around the clock.

Laboratory Facilities: A fully equipped clinical laboratory is maintained in the hospital area and is staffed by two certified medical technicians. In addition, there is a qualified microbiologist.

Clinical and Research Program: The Jewish National Home for Asthmatic Children serves a number of objectives, and every specific function performed at the "Home" is considered to be simultaneously providing a service to the patient, a teaching facility for the entire staff of the institution and a research opportunity in the sense that data must be carefully recorded and newer therapeutic methods so designed that later careful analysis of the accumulated data will permit useful interpretation of the phenomena which affect the disease, asthma.

Our admission policies are of interest. Each child's application for admission to the "Home" for treatment includes the following components: (A) Processing of the application, (B) social and psychological background of the child, and (C) history and physical examination. All applications are requested and returned to Dr. Samuel C. Bukantz. The only criteria used in the selection of the child is that he has to be truely one who has intractable asthma which resisted the usual forms of treatment in his own community for at least one year. In this connection it may be stated that since the advent of corticosteroid therapy, not only has the incidence of intractable asthma in childhood remained unchanged, but the institutional management problem of the children has become more complicated.

The application procedure includes a well prepared and meaningful social service report of the entire family. The psychological and sociological questionnaire contains many questions to be answered. But these questions are necessary and valuable since they permit a better understanding of the child's life history, his family, his emotional problems and his way of reacting to the emotional factors of his illness. Moreover, it is of importance to learn in detail about the attitude toward placement of the child in the "Home" on the part of the parents and the child.

When accepted for treatment at the "Home" children are transported to Denver by airplane. Parents are limited to visits at six-month intervals.

For the social service report help is sought from the various family and child welfare agencies. These agencies continue to help the family through counseling and various levels of psychotherapy while the child is in the "Home" in Denver. Unless the child's parents can develop understanding of their own emotional problems so that they can improve their attitudes and methods of managing their child, the child's intractable asthma may occur upon the child's return to his own home.

In the last three years Dr. Harold A. Abramson and I have had the opportunity to study in detail parental attitudes. This has been implemented by organizing weekly group therapy sessions with parents of intractable asthmatic children living in the New York area. The findings of this study have been reported in two articles[6, 7] and a number of others will follow.

Statistics covering the results of treatment of 150 children at Denver (before the steroid era) and the follow-up study after the children have been returned to their respective families, is the subject of a special communication.[2] I evaluated the differences among pollen-sensitive and pollen-insensitive asthmatics with respect to sex distribution, age at onset, and certain other vital statistics. In this study of 150 intractable asthmatic children who had been sent from the New York area to the "Home" for periods ranging from 12 to 36 months, then returned to their parents, and thereafter studies for follow-up periods varying from one to eight years was as follows:

The ratio of boys to girls was 2:1 for the entire series, and the peak age of onset of asthma was two to three years. Seventy-four per cent of the children of both sexes had onset of asthma before the age of six years. An analysis of the optimum duration of residence at the "Home" in order to obtain maximal continuing benefit after returning to their families revealed the following facts:

1. Seven and one-half per cent of the children whose residence at the "Home" had been limited to 12 months failed to obtain relief from asthma (where failure was relief of less than 50 per cent).

2. One and one-half per cent of the children who remained in residence at the "Home" for 18 to 24 months failed to obtain relief from asthma. All these children were returned to their families and showed a subsequent average incidence of recurrence of 3.5 per cent.

3. There were no failures among the children who had maintained residence at the "Home" for 30 to 36 months. After all the children had returned to their families the average incidence of recurrence rose to nine per cent. My conclusions were that "parentectomy" for 12 months for children with intractable asthma is inadequate for optimum rehabilitation after return to families and that the same procedure for 30 to 36 months for the more troublesome cases did not appear warranted because of the relatively high incidence of failure upon return home. "Parentectomy" for 18 to 24 months, however, appeared to be an optimum period for maximal rehabilitation after return home, and it was my recommendation that this be regarded as a practical period for "parentectomy." Incidentally, the average incidence of failure for the total series of 150 children was one per cent at Denver and seven per cent after return to the families.

COMMENTS AND CONCLUSIONS

From a practical point of view it was necessary to utilize the fact that the removal of most of the children with intractable asthma to a hospital ward may interrupt the intractability within 72 hours. Usually hospitalization maintains the children in a non-threatening as well as a non-allergenic environment. It was also observed both at the local hospital level and at the Denver Home that recurrence of the asthma often coincided with the visit of the parents. Thus, it occurred to me that the relationship with the parents was largely involved in the intractable nature of the asthma and that separation or "parentectomy," a word that I prefer to use because of its psychological implication, led to better results.

The more that was learned of the separation process, the more it appeared that prolonged periods of separation were required and that on the basis of the data obtained at the "Home" an 18 to 24 month period of separation and treatment was apparently optimal for most of the children. During this period the asthma was treated from the point of view of both soma and psyche. That is, both the emotional problems of the children and their somatic therapies were included in the management procedures. We know to a certain extent what happens to a child in Denver. For example, the condition of group living and the nature of the identification process with the older children leads to a special type of community. This special community is characterized by an interesting development, namely—that the older children often become psychotherapists for the newcomers.

While the child is in Denver, he is taken care of medically, sociologically and psychologically. That child is treated as an individual as well as a member of a group with which he is integrated along many lines; interpersonal relationship to other children, to adults, to school, group play and competitive sports, among other activities. When the child's asthma becomes worse at the "Home," I believe this may happen in two major ways. The child may identify the Denver Home with his own home, in which case the child may have to be separated from the Denver Home. In other cases fear of going home was connected with the dangers attendant upon adjusting to school and new friends and probably the parents themselves. Children and the parents especially feared the disruption of a school term.

The impact of a parent's first visit to Denver and subsequent visits which are spaced at six-month intervals, is interesting. The first visit of the parents is usually a threat to both children and parents. This threat decreases during subsequent visits and any asthma occurring during a parent visit decreases as time goes on.

The children have to be carefully prepared for separation from the Denver Home, but nearly all parents were concerned with their own attitudes towards having the children home. Fear of the parents were based on a number of factors.

Thus, the problem of the intractable asthmatic child is a complicated one. Intractable asthma is a condition which occurs in children who have basic immunologic allergies. I've yet to see bronchial asthma experimentally induced primarily in man on a psychological basis. Environmental tension which is a product of the reaction of the child to his parents seems to be the secondary dominating contributing factor in most of the cases. Other factors surely are present. Separation of the child from his own home environment is a prime consideration in the operation of the Denver Home.

The function of the "Home" in the rehabilitation of children with intractable asthma seems to comprise the following criteria: (1) It offers a haven for the desperately-ill child which allows him to be transferred from his emotionally adverse home environment to an emotionally favorable environment, thus aiding the child to lose those asthmatogenic patterns of psychological reactions which has made his bronchial asthma intractable; (2) It gives the carefully supervised child milieu therapy which allows him to make normal emotional adjustment to his illness, to his peers, and to his parent surrogates; (3) It gives the child whatever anti-allergic, medical and specialized psychotherapy he may require to obtain optimal health; (4) It enables the child to respond favorably to specific anti-allergic therapy which prior to Denver failed, and (5) It prepares the child emotionally for his eventual return to his own home in a manner which in many instances will prevent the recurrence of the state of intractable asthma. In my opinion, the Denver Home has been fulfilling these five functions admirably.

The whole import of this study is that today we can approach the treatment of a child with intractable asthma with the knowledge that in the vast majority of instances we can help such a child recover from the state of intractable asthma and have him develop either complete freedom from asthma or substantial relief from his condition.

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CONNECTICUT MEDICINE

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Editorials

The Memorial Issue

The clinical papers published in this issue of *Connecticut Medicine* were presented at a "Symposium on the Allergic Child" in New Haven on April 6, 1960. This Symposium was planned and conducted as part of the teaching program of the Department of Pediatrics in the Hospital of St. Raphael. The panel of speakers, carefully assembled for the occasion, presented a comprehensive program that touched upon every major phase of allergy in the Pediatric age group.

This issue of *Connecticut Medicine* is dedicated to the memory of a great pediatrician who developed the Department of Pediatrics at the Hospital of St. Raphael, and who served as the department Chief, for many years until his death in 1951. The factual story of his active life is contained in his curriculum vitae, and the spirit of this humble and highly respected man has been beautifully captured by the words of our greatly beloved Dr. Grover Powers.

It is a compliment to Dr. McGuire that his former students and colleagues in whose development he played a major role, have carried along in the traditions of teaching and pediatric care toward the attainment of which he so vigorously strove, and whose principles he so jealously guarded.

"He has been succeeded, but he will never be replaced."

Paul F. McAlenney,
Guest Editor

Changing Horizons

In our time we have seen diseases of bacterial origin subdued and nearly vanquished. Medical progress has enormously reduced the incidence of infections such as typhoid fever, malaria, diphtheria, tetanus, pertussis, meningitis and tuberculosis, which have until recently been the major concern of the medical profession. We are at last able to turn our attention to the conquest of diseases of dysfunction and of disturbed physiology. Eminently meriting attention in this latter category is the problem of allergy.

Recent surveys by the author and his collaborators, (Rapaport and Appel) reaffirm the fact that allergic disease has its roots in childhood since as many as 20 per cent of the children up to age 15 have suffered an attack of major allergy before reaching that age. In the report entitled "The Fitness of Connecticut Youth" presented at the Governor's Conference in 1959 it was noted that 46 per cent of all illnesses reported were allergic in nature. In view of these facts a challenge is presented that must be recognized as one of the most common chronic ailments affecting large segments of the youth of this country.

Much research has been done concerning this problem. Much more is in progress. It is the duty of American Medicine to educate itself so that the results of this research may be meaningfully applied to the diagnosis, treatment and prevention of allergic disorders. It was with this thought in mind that a symposium on the allergic child was conceived. We feel that it has been effective toward the achievement of this goal.

Victor L. Szanton

The Teaching Hospital

There has long existed a custom to designate as a teaching hospital that institution devoted to medical care, whose facilities are intimately bound to a college of medicine. Many changes have evolved within the complex structure of modern medical care, and one of many effects has been the alteration of this concept of the teaching hospital. Today every hospital must be a teaching hospital. Indeed, the level of the teaching program is a most valuable yardstick in measuring the level of medical care within a hospital.

The limited facilities of the medical school, or university, teaching hospital, and the large number of young physicians who seek hospital training makes it imperative that much resident teaching occur in community hospitals. The resident medical training programs, and the post-graduate medical programs to serve physicians engaged in the practice of medicine are probably the most ambitious hospital educational projects. The success of these programs frequently determines the type of physician who will eventually supply medical care to the local community. The recipient of this training will be the physician who will eventually be teaching those who follow his footsteps through the community hospital. He will be the physician whose medical knowledge and skill will determine the health and well-being of the community.

The graduates of these programs must be carefully trained and prepared to offer high-level care in their chosen fields of practice. It is not enough to send into practice physicians trained in various specialized fields. The training must be on such a high order that the contribution to the community will combine the best that Medicine can offer. In order to accomplish this goal the hospital residency training program must be carefully planned, well-rounded in scope, and vigorously administered. Success requires considerable sacrifice, great effort, and a deep spirit of cooperation among staff members of a department.

Close cooperation between departments, willingness to exchange ideas, and mutual assistance are invaluable. Gestures of friendly aid between hospitals, and a spirit of friendship and cooperation between hospitals strengthens the character of training programs. The programs in one hospital have often depended for their start on the generous assistance offered by its hospital neighbor.

It would be incomplete and unfair to leave the impression that the aforementioned programs represent the extent of teaching within the hospital. Associated with every major hospital is a school of nursing, the program of which involves teaching in every department of the institution. Instructional courses for radiological assistants and technicians, courses for the training of laboratory technicians, courses for the development of nursing attendants and licensed practical nurses are all a part of the teaching areas in the community hospital.

These programs represent some of the more frequently observed projects. There are numerous others in active function. There are still others in the planning stage. More than thirty planned instruction conferences and discussions occur daily in a hospital.

Similar observations and thoughts have been expressed on previous occasions. They stress points that may be familiar to many readers. The future of the present day hospital teaching program gives rise to considerable speculation. One may feel quite certain that such programs will become more elaborate, and that the quality of the programs will be constantly improved. As newer instructional methods and teaching aids are developed, they will be incorporated into the programs. The expense of the hospital teaching program will continue to increase. More and more of the financial burden will be shouldered by the local community as citizens become more aware of the need for their assistance, and the rewards for their interest. Industry and foundations will be called upon to render financial assistance. Actually, this is occurring at the present time in many areas. An awakened community responds favorably to any necessary call. Newly organized schools of medicine will concentrate more on educating physicians to enter medical practice. The new two-year medical schools will utilize the adequately organized community hospital training programs for medical student and resident clinical teaching wherever feasible. A recent generous gift from the Kellogg Foundation to the University of Connecticut will permit a two-year school of medicine to be organized in the immediate future in this state. This will occur in the gradual developmental processes of newly organized schools in many sections of the country. It is well known that several large hospitals in metropolitan centers throughout the country are studying plans to form medical schools.

It might be said that the hospital of today is an institution wherein medical care is offered and taught at many levels, and in many forms. The success level of the various teaching programs is a very determining factor in the success level of the patient care of the hospital. It is in the highest traditions of Medicine that knowledge be passed along by the disciples of each generation.

"Those who have torches shall pass them on to others."

P.F.McA.

A Growing Point in Medicine

"Our remedies oft in ourselves do lie which we ascribe to heaven."—in All's well that Ends well—Shakespeare.

The Nineteenth Century was a period of intense interest in human inheritance. Controversy raged between the followers of Lamarck that "structure follows function," the so-called environmentalists, and geneticists who took their inspiration from the laws of inheritance propounded by the Augustinian Abbot Gregor J. Mendel. Although he worked with beans and peas the contribution proved of great significance later in the understanding of human heredity. Mendel himself did not use the word "gene" a term introduced by Johannsen early in this century. It was Sutton however who first attributed to the chromosomes the role of carriers of the Mendelian units of heredity. It was he who postulated that the processes taking place in meiosis and gamete production could account for the events observed by Mendel.[1]

In 1908 Garrod[2] published his classical paper on "inborn errors of metabolism" by describing studies on albinism, alkoptonuria, cystenuria and pentosuria. It has since been shown that in each case the individual is born without a specific enzyme needed to complete the biochemical changes in the degradation of a specific metabolite. In some cases like albinism, it was the absence of melanin that resulted from a genic defect. In others it was the accumulation of a substance not ordinarily present in appreciable amounts like phenylkenonuria or galactosemia. In the former the metabolism of phenylalanine is defective so that it accumulates and poisons the nervous system causing mental retardation. In the latter galactose cannot be metabolized due to absence of a needed enzyme. We now know that it requires a given pair of "genes" to produce a particular enzyme. Thus a given pair will determine pigment production, while the absence of a pair will determine whether homogentisic acid is excreted in the urine in the disease alkaptonuria etc.[3]

Such genic defects are now known to result in certain metabolic "freaks" in which large protein molecules are badly built. One known example is Hemoglobin S which is found in certain forms of anemia. How many other body proteins which are badly built, that produce disease is unknown, but if we continue to seek them they are sure to turn up. One of the difficulties in such a search is that while basic defects may be simple, the resulting defect may not be harmful in itself but only act to predispose to a disease which is actually due to an immediate cause in the environment. For example, abnormal sensitivity to light will be made manifest on exposure to light. A defect in galactose metabolism becomes manifest only on ingesting milk sugar. There may, however, be more subtle changes in the body that will respond to physical or mental stresses. In Marfan's[4] syndrome, a hereditable disease of connective tissue, patients may function well and be reasonably well until an abnormal strain pulls the aorta apart. Can it be that some defective nervous systems will break down under the stress of psychic strains? Do some heart muscle and vascular tissues "more stoutly resist effects of pressure than others"? Is there a good and bad reticulo-endothelial system? Questions of this kind will occur to investigators in every area of the body, since environmental factors inevitably operate on a special constitution.

We have thus arrived at a dialectical resolution of the antithesis heredity vs. environment; one is inseparable from the other. With the recognition of the part that both environment and heredity plays in medicine we are in a position to view many problems from a new vantage point. For example, resistance to infection we know to be both acquired and inherited. The acquired form can be obtained by both infection and vaccination. The inborn resistance, however, which an individual may possess against any infectious or even noninfectious disease is inherited and it is this remarkable trait which determines which person will develop a disease and even succumb to it. Apparently this trait is gradually lost with advancing age since there is a much higher death rate from infection in old age than for example at age of 10. Oliver Wendel Holmes recognized the importance of inheritance in longevity in the following famous prescription: "Advertise for a couple of parents both belonging to long-lived families some years before birth."

Some forms of congenital heart disease are coming to be recognized as being caused by defective inheritance. There is the famous family described by Lancisi in 1728 in which great grandfather, grandfather, father and son had congenital heart disease. Tausig described four families in whose members there were multiple instances of congenital malformations of the heart and in two of these families in more than one generation. The most striking was that of a father, two of his three children and one of his grandchildren who all showed unmistakable evidence of patient ductus arteriosus.[5]

Rheumatic fever is probably a disease in which a genic defect sets the stage for a special kind of damage caused by a streptococcus infection. The heredity susceptibility is well documented in the studies by May Wilson in 1940.[6] She concluded that the disease is inherited according to the mendelian recessive pattern. Only 5% of the inhabitants of any community react in this way, the great majority of persons being more or less immune. This sensitivity runs in families and is extremely variable, since there are many subclinical cases in which the diagnosis of rheumatic fever or rheumatic heart disease is never made but in which nevertheless Leary found a "touch of chronic rheumatic heart was a most common lesion to be found at autopsy."

In hypertension also we are beginning to suspect some genic factor. Thomas and Cohen, for example, have found that sons inherited hypertension from their fathers and daughters from their mother. But when both parents were affected then more hypertension appeared in both sons and daughters and three times as much as in children from normotensive parents.[7] White[8] states that serious hypertension does run in some families, that in some families the protective measures and various forms of therapy are less effective than others. Apparently dietary regimes, weight control, reduction of stress and trial of drugs cannot in themselves alter the heart muscle and vascular tissue "to more stoutly resist effects of pressure in these families."

Studies of genetics have spread over a wide area. Besides the absence of one or more genes in a chromosome, specific hereditary somatic defects are now definitely associated with abnormal numbers of whole chromosomes. Thus mongolism has been shown to develop when because of non-disjunction during meiosis three instead of the normal two chromosomes appear in position 21. Similarly abnormal sexual characteristics (Klinefelter's syndrome) also appear to result from non-disjunction involving the sex chromosomes.[9] This process of non-disjunction appears to come spontaneously in ageing mothers but can also be produced by irradiation as well as exposure to high co_2 atmospheres.[10, 11] The precise numbered chromosomes in those afflicted can be identified microscopically in cells grown on tissue culture or other suitable structures obtained by biopsy.

Mendel did his work with beans and peas. Bridges and also Mottram made their basic studies on fruit flies, while much of what we know about individual genes was derived from studies on the fungus neurospora and the pneumococcus. This wide-ranging biologic research has given rise to a unifying principle that pervades all living creatures from the lowliest fungus through bacteria, beans and peas and man himself, namely: "Specific chemical compounds, the genes, are vital in determining the chemical composition of an organism."

What does this whole problem of hereditary disorders mean to man? What about uncontrolled propagation of children by genetically defective parents? What about the environmental causes of genic defects? What shall we do to reduce atomic radiation which has become an increasing concern because of its known effects on genetics of man? What about our practice of x-ray and fluoroscopy on the young and individuals during their childbearing period? It is clear that the burgeoning of our knowledge of genetics has opened many questions of great concern to present and future generations.

L.H.N.

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Polygraph May Prove Predictor Of Coronary Disease

The polygraph, widely-used lie detection device, may prove capable of predicting likely candidates for coronary heart disease, two San Francisco physicians said today.

Doctors Meyer Friedman and Ray H. Rosenman said individuals with an organic disorder of the coronary arteries displayed polygraph reactions markedly different from normal individuals and those with a non-organic disorder of the heart and circulatory system when all were subjected to an irritating situation.

The study was based on the authors' previous report that persons whose personality is characterized by "excessive competitive drive, a persistent desire for recognition and advancement, a persistent involvement in multiple functions subject to 'deadlines,' and a habitual propensity to accelerate their pace of living and working" (termed behavior pattern A) also exhibit about seven times as much coronary heart disease as persons with the converse type of personality.

In the latest study, a group of 20 persons suffering coronary heart disease, another group of 15 normal persons, and a third group of seven persons with cardiovascular disease underwent a polygraph test while listening to a tape recording designed to cause irritation.

The polygraph results showed that the patients with coronary disease were clearly differentiated from the other two groups by a rapid rise in the respiratory wave when inhaling, by a greater expansion of the upper as compared to the lower half of the chest, by a threefold greater incidence of respiratory deformities, by a twofold greater incidence of body movements, and by the frequent occurrence of hand clenching.

THE PRESIDENT'S PAGE

THERE are those of the opinion that the narrowness of President-Elect Kennedy's victory, in terms of popular will as distinct from the electoral college vote, provided insurance against a rapid acceleration of a trend toward radical federalism. Along with the "photo finish" in the presidential race, there was indeed no clear mandate discernible in the victories in other races within the states.

Nevertheless, the new national administration can be expected to push vigorously for liberal federal spending to provide broader social security benefits, stepped-up school building programs, increased aid for housing, et al., under federally determined patterns. Mr. Kennedy boldly and bluntly emphasized throughout his campaign the sharp contrast between his stand for generous federal measures in these areas and Mr. Nixon's stress on local and state administered programs assisted by federal matching funds.

The contrast between the philosophies of the two presidential candidates was perhaps most clearly evident in their proposals in the areas of health care. Whereas Mr. Nixon supported federal-state grant programs with local administration, Mr. Kennedy called for a broad social security program to provide hospitalization and medical services for older people. In addition he called for appropriations from general federal revenue to provide corresponding benefits for older persons not eligible for social security coverage.

Congress in August 1960 rejected the Kennedy type plan and adopted a plan much more like the Nixon type. Many believe that two factors were mainly responsible for blocking the adoption of the social security medical assistance program: (1) the enormous popularity of President Eisenhower backing up the threat of his veto, and (2) the strong opposition of medical organizations which made the most of evidence of the widespread availability and effectiveness of voluntary health insurance plans. The first of these factors will drop out of the picture very soon. Furthermore, the states have been quite sluggish in implementing the plan Congress adopted last August.

It is my prediction that the "photo finish" in last month's election will not deter the new administration from vigorously urging the use of the social security system to cover hospital and medical services for persons eligible for social security benefits and the use of appropriations from general federal revenue to cover corresponding services for others (older persons at first).

The threat of federal intervention in medical care was never greater. Will the medical profession rise to the challenge? Will it do its best to encourage the states to get rolling on the federal-state matching funds programs authorized by Congress last August? Will the medical profession close ranks and strive with renewed vigor for broader and more effective voluntary prepayment and insurance plans?

Concerted group action can yet prove effective. Dissension within the profession, especially if accompanied by unfortunate publicity of the type we had here in Connecticut in 1958, could diminish whatever chances there may be for implementing the federal-state matching fund program along voluntary health insurance principles and could increase public support for federal intervention in the area of health care.

JOHN N. GALLIVAN, M.D.

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ANNOUNCEMENT
DATE LISTING SERVICE

Realizing that all too often the number of members who attend meetings of medical organizations is disappointingly small and that, in part at least, this curtailment of attendance is frequently brought about by one or more conflicts with other meetings, the Society's office is instituting a minor but potentially important service for the use of all legitimate medical organizations who may wish to avoid such conflicts.

Starting now, any group may notify this office of the time, place, and date on which it plans to hold a meeting. The information will be recorded and, if time permits, published in *Connecticut Medicine.* In addition, this knowledge will enable us to advise inquiring program chairmen as to the nature and dates of meetings already scheduled and allow them to determine whether or not those meetings will adversely affect their own or vice versa. It stands to reason that early listings will increase the efficiency of the plan.

This will be strictly a date clearance service; *not a date booking bureau.* The Society obviously has no prerogative to set or change dates for any meetings but its own. Those interested in utilizing this service may write to the Connecticut State Medical Society, 160 St. Ronan St., New Haven 11, Connecticut or call New Haven, UN 5-0587.

Operation Jaycee Doctor

In cooperation with the Woman's Auxiliary to the State Medical Society, the Connecticut Refugee Committee and the Connecticut Junior Chamber of Commerce have initiated "Operation Jaycee Doctor." The purpose of this worthy project is to collect surplus drug samples from physicians' offices, sort and package them, and distribute the medications to overseas areas in which there exists a great need for medical supplies of all kinds.

The plan has the approval of the Pharmaceutical Manufacturers Association. Packing, domestic transportation and shipping abroad will be accomplished without charge, the latter as a contribution of the United States Marine-Isthmian Shipping Agency.

This appears to be a most humane undertaking and all members of the Society are urged to donate whatever excess of samples they have on hand to accredited persons who may call at their offices, whether they be from our own Auxiliary or from the other participating agencies.

COUNCIL MEETING
Sunday, October 23, 1960

A meeting of the Council was called to order by the Chairman, Dr. Gilman at 3:30 P.M. on Sunday, October 23, 1960. Present in addition to the Chairman were Drs. Gallivan, Feeney, Goldberg, Hess, O'Connor, Cullen, Gardner, Scully, Abbot, Weise, Bradley, Cornwell, Buckley, Rentsch, Murray, Schiavetti, Grant, Davis, Phillips, Purnell Also present Dr. William R. Richards, General Manager. Absent were Drs. Caplan, Katzin, Gorman, Pollock, Gevalt, Chartier.

MINUTES OF MEETING, September 8, 1960. The printed minutes of the Council meeting of September 8, 1960 were accepted as printed.

CONNECTICUT MEDICAL SERVICE, INC. The primary purpose of this Sunday meeting of the Council was to consider and act upon a letter to the Chairman from Allan J. Ryan, Meriden, Chairman of the CMS Medical Advisory Committee. In his letter, Dr. Ryan indicated that he had been requested by members of the MAC to get clarification from the Council on two specific matters:

The first of these had to do with the resolution adopted by the Council on September 8, 1960 which reads as follows: "Resolved: That, it is the opinion of the Connecticut State Medical Society that the CMS Medical Advisory Committee does not have the responsibility of constructing any proposed new subscribers' contracts or any proposed new contracts with participating physicians or any proposed major changes in CMS bylaws but should supply counsel on matters pertaining thereto when consulted by authorized representatives of the CMS Board of Directors."

Dr. Ryan reported that the CMS Board of Directors had voted as a definitive action to adopt the service benefits features of a proposed new contract. The board further voted to refer the payment schedule and other features of the contract involving professional services, to the Medical Advisory Committee for study and recommendations with the request that the MAC submit its recommendations to the Board not later than November 1, 1960. He also reported that several members of his committee had expressed reluctance to comply with the request of the Board of Directors, because of a feeling that such action might be in conflict with the intent of the Council's resolution of September 8th.

The second point on which the MAC group sought clarification from the Council concerned whether or not the resolution of the Committee on Third Party Payments, adopted by the House of Delegates on April 26, 1960, is in possible conflict with present activities of members of the MAC in requesting suggestions on CMS payment schedules from sections of the Society and similar groups. The pertinent resolution states that no interested section or group of the Society shall "negotiate or approve any change in existing fee schedules . . . without submitting a request for such changes to the . . . Committee on Third Party Payments. . . ."

Dealing with the first matter, the Council engaged in a prolonged and extensive discussion of its September 8th resolution, seeking to determine in what way it might be effectively clarified. A number of resolutions were proposed by members of the Council, each one seeking to make the requested clarification but all of these were either unseconded, tabled or lost. In substance, there appeared to be no disagreement regarding the fact that the Council had no intention to take away any properly assigned power, duty or responsibility from the MAC which that group wished to retain and was delegated to it under the CMS Bylaws. All of the resolutions previously referred to attempted to express this sentiment but each seemed to complicate rather than clarify the matter at issue. At the conclusion of the discussion, the Chairman of the Council made an earnest request that Dr. Ryan convey this sense of the Council's discussion to his committee members in his words, rather than in writing, and this Dr. Ryan agreed to do.

In clarifying the role of the Committee on Third Party Payments, in relationship to activities of the MAC, the Council voted to transmit to the MAC twenty-five copies of an opinion presented to the Council by Max Alpert, Bridgeport, Chairman of the Committee on Third Party Payments:

"1) That it would be impractical, if not impossible, for the Third Party Payments Committee to intelligently pass upon the large number of suggestions on fees being submitted to the CMS Medical Advisory Committee by sections of the Society and certain specialty groups.

2) That the act of giving advice to MAC members by these sections and groups for the purpose of assisting the MAC in drafting the payment schedules of CMS contracts does not constitute 'negotiating or approving . . . changes in existing fee schedules,' as defined in the Third Party Payments resolution adopted by the House of Delegates on April 26, 1960.

3) That since the Committee on Third Party Payments will be one of the first agencies within the society to receive for study any new or revised CMS contracts, it can fully exercise its intended function of reviewing the complete payment schedule and all other aspects of such contracts at the time they are submitted to the Society for approval.

Therefore, Dr. Alpert does not believe that the MAC should be 'constrained by the ruling' contained in the 1960 Third Party Payments Committee resolution, since he feels there is no need to apply that ruling to this situation."

COMMITTEE ON ENGAGEMENT OF LEGAL COUNSEL AND/OR LOBBYIST. This Committee, composed of Drs. Gilman, Gallivan, Richards and Selleck, submitted its report and recommendations to the Council and after certain amendments, it was VOTED to accept the recommendations of the committee as follows:

"1. That the CMS enter into an informal agreement with the New Haven law firm of Wiggin and Dana which would entitle the Society to designate that firm as its official counsel but would not involve a retainer.

2. That under this informal agreement, individuals, groups and committees within the Society needing legal advice on some matter of Society business request authorization to obtain this advice from Wiggin and Dana by application to the Council, or in urgent situations, by application to the General Manager and/or the Chairman of the Council (or such other person or persons as the Council may wish to define; e.g., an "executive committee"), the costs of this legal advice to be borne by the Society. (This recommendation meets the special requirements which the committee was asked to consider regarding activities of the Committees on State and National Legislation and the Committee on Investments.)

3. That the Committee to Study the Engagement of Legal Counsel and/or Lobbyist be empowered to interview a person or persons potentially suitable to serve as a lobbyist for the Connecticut State Medical Society at the Connecticut General Assembly for the biennium 1961-1963; to work in close cooperation with the Committee on State Legislation, the General Manager and others in developing positive attitudes for the Society in regard to

pertinent legislative matters; and actively assist the committee and qualified members of the Society in presenting these attitudes to the General Assembly and elsewhere in an effective manner.

4. That the Budget Committee include in the 1961 budget an openend allotment of $2,000 of general funds for the purpose of defraying such legal costs as may be incurred by the Society in carrying out the above recommendations."

It is understood that the committee will make the further report called for under recommendation 3.

"CONNECTICUT'S REPORT TO THE WHITE HOUSE CONFERENCE ON AGING." This report, submitted by the Connecticut Commission on Services for Elderly Persons, but presumably developed through the efforts of a sixty-seven member Connecticut Advisory Committee for the White House Conference on Aging, was brought to the attention of the Council through a resolution of the Connecticut State Joint Council to Improve the Health Care of the Aged and also from members of the Society who served on the Advisory Committee. It was pointed out that the Commission's recommendation relative to the financing of medical care of the aged, which favors financing medical care of the aged through the Social Security mechanism, is not in agreement with the majority report of the Advisory Committee Sub-committee on Income Maintenance. The latter, by a vote of 9-2, recommended that qualified older people who need assistance in meeting their medical care costs should receive such assistance through a state administered program (similar to the Kerr-Mills Bill, recently enacted into Federal law.) The concern of members of the Joint Council and the Society was that since their names were listed in the commission's report as having participated in its preparation, it might be interpreted at the 1961 White House Conference on Aging that this was also their recommendation, which it is not.

Finding itself in agreement with these views, the Council VOTED to adopt the following resolution:

"Whereas, the 'Connecticut Report to the White House Conference on Aging,' submitted by the Commission on Services for Elderly Persons, makes a recommendation in regard to the financing of medical care of the aged which is entirely contrary to majority recommendations in this matter reported by the Connecticut Advisory Committee for White House Conference on Aging, and

Whereas: the Connecticut State Joint Council to Improve Health Care of the Aged and Individual physicians serving on the Advisory Committee have informed the Connecticut State Medical Society of their concern that this recommendation of the Commission on Services for Elderly Persons will be interpreted as being that of the Advisory Committee when, in fact, it is not; therefore be it

Resolved: that the Council of the Connecticut State Medical Society authorize and request members of the Society who serve on the Connecticut Advisory Committee for the White House Conference on Aging to take such steps as may be necessary to formulate a statement which will reflect the opinion of that Advisory Committee with respect to the financing of medical care of the aged, and be it further

Resolved: that such report, when completed, be filed with the Governor and be transmitted to the proper agency in Washington, D. C. for consideration at the 1961 White House Conference on Aging.

It was further VOTED to ask James R. Miller, West Hartford, to implement these resolves, consulting with other members of the Society who serve on the Connecticut Advisory Committee for the White House Conference on Aging.

RESOLUTION FROM FAIRFIELD COUNTY MEDICAL ASSOCIATION RE SECTION ON RADIOLOGY. The Council was presented with a resolution of the Fairfield County Medical Association, adopted on October 5, 1960 regarding a controversial fee schedule accepted by the Compensation Commission upon recommendation by the Section on Radiology, dated October 2, 1959. This resolution reads as follows:

"Resolved, that the Fairfield County Medical Association at the semi-annual meeting, advise the Council of the State Medical Society of its continuing displeasure, and recommend to the Council that it take appropriate action, forthwith, to implement the resolution passed by the House of Delegates, in this matter."

The pertinent resolution, passed by the House of Delegates on April 26, 1960, among other things, called upon the Section on Radiology to notify the Compensation Commissioners that the Section's action be immediately rescinded.

Acting on the October 5th resolution of the Fairfield County Association, the Council VOTED to direct the General Manager's investigate this matter in as great detail as possible and to report to the next meeting of the Council what steps have been taken or are planned to be taken by the Section on Radiology to comply with the action of the House of Delegates on April 26, 1960, and that in the event no definitive steps have yet been taken by the Section on Radiology, the President of the Section be invited to join the next Council meeting to report directly in this matter.

ELECTION OF STUDENT MEMBERS. Forty-one student members were elected.

BOARD OF DIRECTORS OF CMS AS EX-OFFICIO MEMBERS OF COUNCIL. Jachin B. Davis, Alternate Councilor from New Haven County Medical Association, raised a question as to what action had been taken by the Council to amend the by-laws in such a way as to make CMS Directors, who are members of the Society, ex-officio members of the Council during their tenure of office on the Board, as directed by the House of Delegates on April 26, 1960. The Chairman reported that this matter had been referred to the Sub-committee to Review and Revise the By-laws and that, at this date, the subcommittee was not prepared to make recommendations in this matter.

Dr. Davis noted that the Council had been *directed* to report on this action "to the next meeting of the House of Delegates" and suggested that members of the House might be displeased in the event that no definitive report was forthcoming. The Chairman suggested that a progress report on this subject be made to the House of Delegates in December.

DATE OF NEXT MEETING. It was VOTED that the next meeting of the Council will be held on Wednesday, November 16, 1960.

New Members

LITCHFIELD COUNTY
- Alexander Mehlman, Torrington
- Austin C. Shealy, North Woodbury

MIDDLESEX COUNTY
- Claude J. Ballard, Portland
- John R. Bellobuono, Middletown
- Eugene L. Ehrlich, Middletown
- Margaret Meyen, Middletown
- Joseph B. Woodson, Middletown

NEW HAVEN COUNTY
- David Beck, New Haven
- Joseph R. Bove, New Haven
- Joseph A. Camilleri, New Haven
- Joseph C. Carpentieri, New Haven
- Chu H. Chang, New Haven
- Tibor Doby, New Haven
- John E. Donnelly, Bethany
- June F. Donnelly, Bethany
- Allen W. Fanslow, Devon
- James F. Glenn, New Haven
- Antonio Graziano, New Haven
- Buel K. Grow, Jr., Derby
- Robert B. Hurowitz, New Haven
- Fred M. Kramer, Meriden
- James B. D. Mark, New Haven
- William J. Massie, New Haven
- John R. Mitchell, West Haven
- Dario R. Nolasco, New Haven
- Earl S. Patterson, Meriden
- Henry E. Payson, New Haven
- Anthony V. Piccirillo, Wallingford
- George W. Valentine, Waterbury
- Daniel C. Weaver, New Haven
- Stanley R. M. Zerne, New Haven

TOLLAND COUNTY
- Joseph A. Amanti, Stafford Springs
- Edward A. Palomba, Somers

PLACEMENT OPPORTUNITY

WANTED: Associate physician for busy, general practitioner's office, Fairfield County, Connecticut.

WANTED: Psychiatrist in the Torrington area.

ANY PHYSICIAN INTERESTED IN THE ABOVE IS ASKED TO COMMUNICATE WITH THE GENERAL MANAGER'S OFFICE, 160 ST. RONAN STREET, NEW HAVEN.

Salk Vaccine More Effective With DTP Shot

Salk polio vaccine has been found to be more effective when given with diphtheria, tetanus, and pertussis vaccines in a combined injection.

A study of the polio-diphtheria-tetanus-pertussis vaccine (Compligen) was reported by researchers at Pitman-Moore Co., Division of Allied Laboratories, Zionsville, Ind., in the current Journal of the American Medical Association.

The study involved 192 children, ranging in age from one month to six years. It was designed to determine the merits of combining the polio shot with the successfully tested diphtheria-tetanus-pertussis (DTP) shot.

The polio antibody response, i.e., the bodily resistance built up by the vaccine, was "significantly greater" with the combined vaccine than with the Salk vaccine alone, the authors said.

The diphtheria antibody response to the combined vaccine also was "significantly higher" than it was to the DTP vaccine, they said.

However, the tetanus and pertussis responses were "essentially the same" to both the DTP and the polio-DTP vaccines, they added.

The children were given a course of vaccinations consisting of three injections at approximately one-month intervals, the authors explained. This schedule was adopted because it is recommended for primary immunization with the DTP vaccine.

For comparative purposes, the polio vaccine was administered according to the same schedule. Therefore, it was considered as a primary vaccination since it is generally acknowledged that polio immunization should not be considered complete until a reinforcing dose is given six months after the first series of injections.

The effectiveness of the vaccines was based on the level of antibodies in blood specimens taken before and after the injections.

Around The State

New Haven County

The semi-annual meeting of the County Medical Association took place at the Waverly Inn October 20, 1960. Opening addresses were given by John Gallivan, President of the State Society, and Thomas Feeney, President-Elect. Doctor Feeney described the efforts which are being made to implement a Connecticut program for medical care of the aged under the provisions of the Mills Bill. In enacting this legislation Congress left to the individual states considerable latitude in arranging details. It is possible that the Connecticut program as finally worked out may provide for administration through regular welfare channels, thus depriving recipients of free choice of hospitals and physicians. The Association passed the following resolution:

The New Haven County Medical Association goes on record as favoring the implementation of the Mills Bill provisions by our State Legislature so that there be

1. no diversion or diminution of welfare funds for general State expenditures and
2. use of available federal funds to supplement private resources for the medically indigent so that these patients may retain their free choice of private physician and hospital.

Clyde Deming, Chairman of the Committee to Review and Re-Edit the By-Laws, went over in detail a series of changes proposed by the Committee. These proposals are to be acted upon by the Association at its next annual meeting.

Henry Caplan, President of the Association, announced that the Board of Governors had nominated Allan Ryan for a further term of membership on the Medical Advisory Committee of C.M.S. Motions were carried by the Association instructing the Councilor, Samuel Rentsch, to request the Nominating Committee of the Connecticut State Medical Society to give most serious consideration to the nomination of Clyde Deming for the office of president-elect of the State Society in 1961; and to the nomination of John Freheit as a Director of C.M.S. for a term to begin next February.

Attention was called to the fact that several medical meetings were being held at the same time as the meeting of the Association. A motion was therefore passed requesting the executive office of the Connecticut State Medical Society to set up a central calendar of medical meetings for the purpose of avoiding conflicting dates.

Following dinner, newly elected members were presented to the Association. Mr. Peter Feriola, recently appointed Director of Public Relations for the Association, was also introduced, making a brief address. Louis Claiborn received a scroll from the A.M.E.F. in recognition of his outstanding contributions to that organization.

In a closing ceremony each of the following ex-presidents of the Association was presented with an appropriately inscribed testimonial plaque, the recipients making graceful acknowledgement of the honor were as follows: Samuel Rentsch, Michael Conroy, Israel Otis, James Gettings, Charles Flynn, Clyde Deming, Jacques Green, John Freiheit, Henry Stettbacher and Walter Russell.

Doctor's Office

Vincent Baptist, M.D., and Armanno W. Ciccarelli, M.D., announce their association in the practice of general surgery at 291 Queen Street, Bristol.

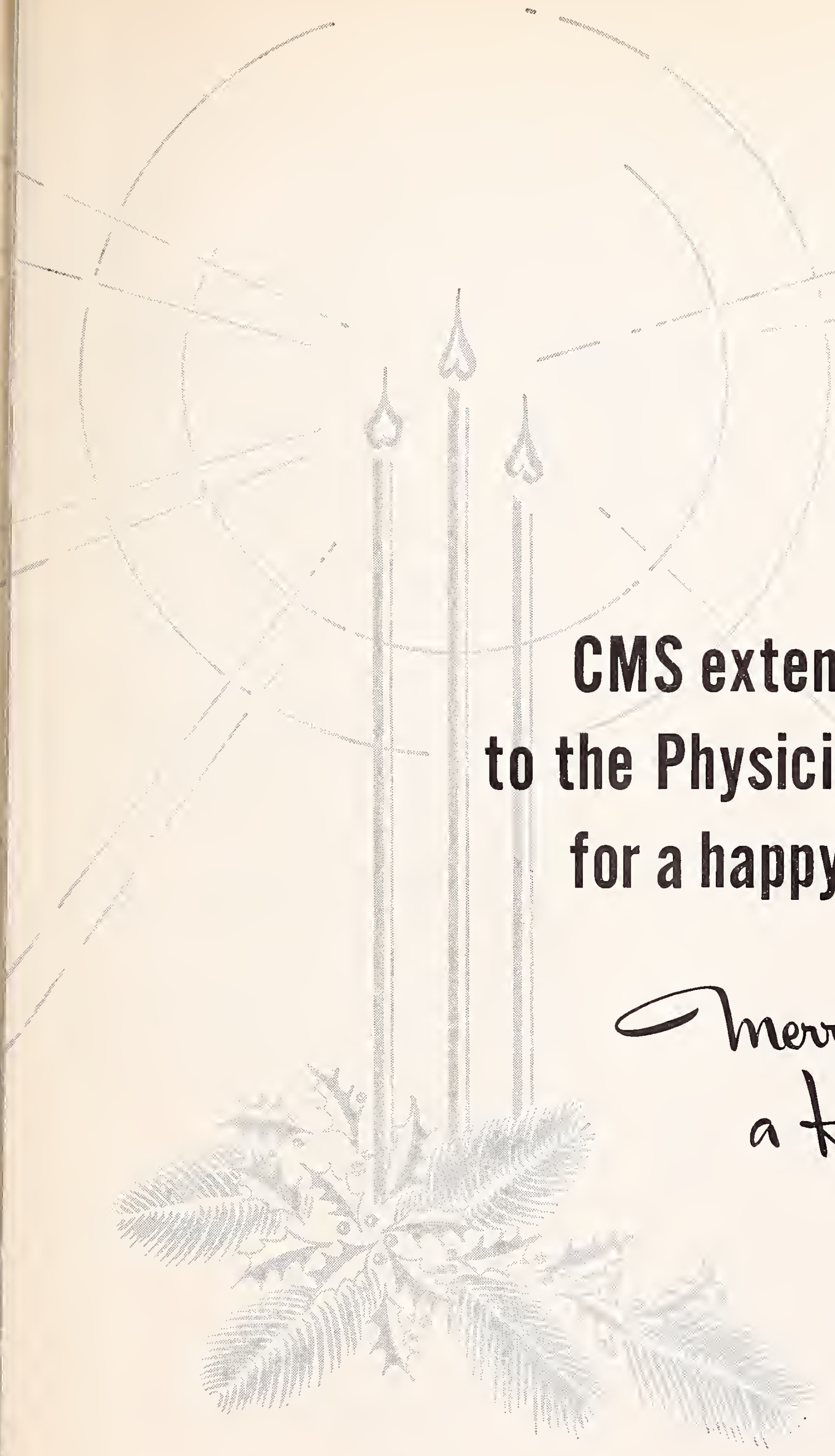
Joseph W. Belkin, M.D., announces the removal of his office from 73 Cedar Street to 49 East Main Street, Plainville.

George Dorfman, M.D., announces the removal of his office from 73 Cedar Street to 49 East Main Street, Plainville.

Pinworms

Pinworm infestation appears to be one of the many conditions in which reassurance may be as important as medication. Commenting on the *Medical Letter* review of anthelmintic drugs (2: 4, Jan. 8, 1960), Dr. J. R. Paul, Jr., Professor of Pediatrics at the Medical College of South Carolina, agrees that the piperazine drugs (such as Antepar) are effective against enterobiasis, but he doubts the value of measures used to prevent reinfestation. "I have seen a good many families who have spent literally years trying to rid themselves of enterobiasis, and becoming rather severely emotionally disturbed about these completely harmless creatures" he writes. "I do not believe that it is necessary to do pinworm swabs on children who do not have sypmtoms, as I am convinced that pinworms are occasional if not long-term virtually saprophytic inhabitants of the rectum of up to 100 per cent of school children. . . . I think there is much less evidence that pinworms have anything to do with producing disease than there is against the common house fly."

Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.



CMS extends its best wishes to the Physicians of Connecticut for a happy holiday season.

Merry Christmas and a Happy New Year

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The Blue Shield Plan for Connecticut

CONNECTICUT MEDICAL SERVICE, INC.

SPONSORED BY THE CONNECTICUT STATE MEDICAL SOCIETY

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Mrs. Paul W. Vestal, Woodbridge

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Mrs. Fritz Meyer, Bridgeport

Fall Meeting Capsule

At this time of writing the semi-annual meeting of the auxiliary may seem like old news but certain pertinent facts were reported that bear repetition for emphasis and clarity.

The president's report showed representation by Connecticut at state meetings in Maine, Massachusetts and New York, at the annual National Convention of the Woman's Auxiliary to the American Medical Association, and the annual Fall Conference in Chicago.

Two board meetings and an organizational meeting have been held by the state auxiliary. At the last board meeting the suggestion of the Council of the state medical society was adopted that we cooperate with the Junior Chamber of Commerce of Connecticut in the collection of medical and surgical supplies. They will do the transporting of the supplies which we collect and the supplies will be distributed to the needy areas of the world through UNICEF.

The president is representing the Auxiliary on a committee of the Connecticut Health League for their Homemaker Service Conference of December seventh.

Mrs. Hannibal Hamlin of Rhode Island, the National Eastern Regional Vice-President of the Auxiliary was a guest at the semi-annual meeting and spoke briefly to the members present. Several state president and presidents-elect were also present at this meeting.

Although Tolland County is our only unorganized county, the auxiliary has active workers there such as Mrs. Alfred Schiavetti who managed the health education exhibit at the county fair in that area.

Dr. John N. Gallivan, president of the Connecticut State Medical Society gave a very accurate speech to the members on membership—specifically what to expect from each and all of the enrolled members.

The School Health Chairman, Mrs. Dewey Katz, explained the duties of our representative to that council. Some of the past recommendations of this council are the policies now followed in the periodic health examinations of all school children and school personnel.

The Civil Defense Committee will keep an active file of all members of the auxiliary with their capabilities an availability to serve in an emergency.

The Health Careers Committee reported more than $5,000 granted in grants and loans during 1959-1960, in addition to AMEF funds. Information on over 30 different allied health careers have been requested by high school students in this state.

The art committee is hopeful of surpassing last year's excellent response of over eighty artists.

In addition to this business the members present enjoyed a fall fur fashion show, modeled by auxiliary members, and listened to a fascinating talk by Poppy Cannon, author and speaker on food and cooking.

Medical representatives included the President of the Connecticut State Medical Society, John N. Gallivan, and General Manager William R. Richards, as well as representatives of the advisory committee to the auxiliary.

Auxiliary Calendar

Hartford—November 15—Board meeting.
New London—November 15—Membership tea at the home of Mrs. Richard Loiacono.
Middlesex—November 21—Regular meeting—Speaker Dr. Norman Gardiner on legislation, and Mrs. Soreff will show slides on her recent trip to Israel.
State—Board meeting December 12 at Grantmoor Motor Inn, Berlin Turnpike.

Book Reviews

FROM FISH TO PHILOSOPHER. The Story of Our Internal Environment by Homer W. Smith. Ciba Edition revised and enlarged, 12 figures. Issued by Ciba Pharmaceutical Products, Inc., Summit, New Jersey, 1959, 304 pp.

Reviewed by Samuel A. Corson

Of all the organs in the body, the human kidney appears to be one of the most extravagant performers. In order to elaborate one ml. of urine per minute, the kidneys divert unto themselves about 1,200 ml. of blood, or roughly one quarter of the total cardiac output. Every minute the action of cardiac musculature forces through the glomerular endothelium about 125 ml. of a plasma ultrafiltrate or about 20 per cent of the total renal plasma flow. Only one ml. of this filtrate appears as urine, the other 124 ml. being reabsorbed by various segments of the renal tubular and collecting ducts.

The heart and the renal tubules appear to be in perpetual conflict, the interplay of these two forces maintaining a precarious equilibrium. Survival of the organism depends on the perpetuation of this conflict and the preservation of the relative strengths of the opponents.

This process of filtering a large quantity of plasma fluid, followed by the reabsorption of about 99 per cent of the filtrate in order to get rid of less than one per cent of the fluid (containing waste materials), appears to be a highly inefficient operation. It is like opening the barn door and letting out 124 calves in order to get rid of one rat and then proceeding to expend energy in order to return the calves to the barn. It would have been much simpler to catch and expel one rat in the first place.

Yet the human kidney does operate in this roundabout, costly manner. The key to the elucidation of this enigma lies in the proposition that the glomerular kidney was first evolved as an instrument for filtering off excess water when our marine ancestors first ventured into a fresh water milieu. The glomerulus represented one of the mechanisms by which the kidney protected the body fluids against dilution and thus helped to preserve the constancy of the internal chemical environment required for the maintenance of physiological functions.

How the kidney maintains this chemical homeostasis and how these mechanisms evolved from the appearance of the microscopic protista to modern man—this is the story Professor Homer Smith presents in this book in a most elegant, erudite and compelling manner.

But the book really contains more than a lucid description of the evolution of renal function. Within the confines of some 300 pages Homer Smith manages to tell us a great deal about the story of the earth, the meaning of, and evidence for, organic evolution, the comparative physiology of renal function, and the evolution of the central nervous system, including a highly illuminating and thought-provoking discourse on mind and consciousness and the biological basis for developing philosophical concepts or executing intricate musical compositions. And all of this is done with a refreshing blend of authenticity of a competent laboratory scientist, the insight of a philosopher and a poet, and the gift of verbal command that rivals the creators of the finest English prose.

Dr. Homer Smith is a man of rare qualities. He conducted field studies on the lungfish in Central Africa and on fresh water elasmobranchs in Siam and Malaya. From these and other studies he developed his basic concepts regarding the evolution of renal structure and function. He has made major contributions to the physiology of the mammalian kidney, including the development of quantitative renal clearance methods and their clinical applications. His book on *Man and His Gods* represents the finest example of the application of scientific analysis to the variegated attempts of man to relate himself to the universe and to history and to find meaning to his existence. In addition to this, he wrote *Kamongo* and *The End of Illusion,* books that are best described not by the American term "fiction," but by the European word "belletristic."

All of this creative writing was achieved by Dr. Smith in addition to directing active teaching and research programs. His laboratory became a Mecca for the training of renal physiologists and clinical investigators. Amidst all these activities he found the time to prepare one of the most exhaustive and authoritative compendia on renal function: *The Kidney: Structure and Function in Health and Disease.*

I recently had an opportunity to observe the "Smithian" influence extend behind the so-called Iron Curtain. As a member of an American Friends Service Committee scientific-medical exchange mission to the USSR, I visited one of the medical schools in Kiev, the capital of the Ukrainian Soviet Socialist Republic. There on the desk of a young physiologist was an open book in English heavily underlined in many places with red ink. It was Homer Smith's *The Kidney.* The young Russian scientist was struggling with the book (accompanied by a dictionary) trying to learn some renal physiology "at first hand," as he put it, in spite of the fact that his knowledge of English was so rudimentary that we had to switch our conversation to Russian after the preliminary greetings were over, at which point the young man's English vocabulary was completely exhausted. During our conversation he referred to Smith as the Pavlov of renal physiology, the highest compliment one can pay in the Soviet Union to a biologist. He began to study English only about a year ago chiefly in order to be able to read Smith's book.

One of the advantages of knowing the English language is that one can read and enjoy the scientific facts and philosophic concepts which Homer Smith has marshalled in his writings. And of his books, *From Fish to Philosopher* is perhaps one of the most intellectually stimulating masterpieces. This book will be found to be a goldmine for those who would like to learn something about the way our internal biochemical homeostasis has evolved so as to make man and science and philosophy possible. However, even those who like to read merely for relaxation and pleasure will find in this small book a treasury of wit, charm, and esthetic enjoyment.

THE SEVEN AGES OF WOMAN by Elizabeth Parker, M.D., The Johns Hopkins Press, Baltimore, Maryland, 1959, 596 pp. $6.50.

Reviewed by C. C. Davis

The author states in the preface that this book was written for women. It is possible that a more sympathetic review would be made by a woman. There are many, many places in the book where there are obvious oversimplifications in the presentation of the material. There certainly seems to be many overdramatizations.

The jacket of the book states that the author is a competent specialist in her field and that she has recently left a teaching position to concentrate on private practice in gynecology. The author is listed in the roll of Fellows in the American College of Obstetrics and Gynecology, but she does not appear in the Directory of Medical Specialists, which includes members of the American Board of Obstetrics and Gynecology.

As is indicated by the title, the book is in seven parts, each section having to do with a developmental epoch. The first chapter is *The Age of Maturity*. For reasons that are not quite clear to the reviewer *The Age of Marriage and Motherhood* is treated as a separate part. This is obviously a part of the age of maturity. The third part then starts with *The Age of the Unborn* and there is thereafter a chronological sequence of the various epochs, eliminating *The Age of Maturity*, which is previously covered.

"Sperm cells are started on their race to find a mate by being deposited high up in the vagina close to the cervix, some on the cervix and perhaps a few directly into the opening of the cervix." That description may be correct for the hugh majority of instances, but there are many obvious exceptions.

In several places there are direct contradictions. The author points out that the patient needs iron and calcium in the right amount at the right time. In the very next paragraph she proceeds to describe how the body is not dependent on a day to day supply as pregnancy starts early to build large reservoirs from which the mother may obtain the proper amount at the time that it is needed.

"Strain on the heart is greatest in meeting the needs of pregnancy rather than in labor, as has been commonly believed." As a matter of fact, the periods of greatest stress on the heart are at approximately 30 weeks, during the second or expulsive stage of labor, and in the first 24 hours postpartum, when there is an increased mobilization of fluid in the body.

Throughout the text all trophic hormones are referred to as tropic. The author certainly pays undue attention to the importance of thyroid in the amelioration of menstrual difficulties and infertility problems. It would be nice if things were as simple as she seems to intimate. Most of the book, when talking about the evaluation of thyroid function, the author discusses only the basal metabolic determination. This is an outmoded technique. However, in one section the author does indicate that she is aware of the newer tests which are being routinely done today.

By and large, the reviewer finds this an extremely superficial, over-simplified and frequently inaccurate treatise on the general subject. I am afraid that if this book were read seriously and the information taken to a competent physician for discussion, he would find himself in a difficult position to verify many of the statements made.

STERIC COURSE OF MICROBIOLOGICAL REACTIONS. Ciba Foundation Study Group No. 2. Little Brown & Co., Boston, Mass., 1959, 109 pp.

Reviewed by Wolf Vishniac

The present symposium deals with the steric specificity of enzymatic reactions. Two developments in modern biochemistry have combined to assign physiological significance to molecular topography: Ogston's concept of the "three-point attachment," i.e. the asymmetric behavior of bilaterally symmetrical molecules when attached to an enzyme, and the observation by Vennesland and Westheimer of the stereospecific transfer of hydrogen atoms from donor substrate to coenzyme to acceptor substrate. This newer understanding of the significance of molecular orientation not only contributes to the elucidation of enzymatic reactions, but suggests, at the molecular level, one mechanism on which physiological control of metabolism may be based in the intact cell.

For the discussion of this topic the organizers of the symposium have assembled a small group of distinguished contributors. Westheimer's introductory paper provides the necessary chemical and historical background material, and outlines his thoughts on future developments. Two other papers of general importance deal with the mechanism of hydrogen transfer in dehydrogenase reactions. Wallenfels discusses the stereospecific oxidations and reductions of the pyridine nucleotides. Kaplan deals with steric mechanisms which affect a particular substrate, lactic acid, although he treats his topic as a special example from which he generalizes.

Two papers on specialized topics conclude the volume: one by Talalay on steroid dehydrogenases, and another by Prelog, in whose honor the symposium was held, on ketone reduction. The inclusion of a transcript of the discussion which took place among the participants is a valuable feature of the book. In the days of multi-volume encyclopedic treatises readers will be grateful for a slim volume of high specific activity which serves as a readable summary of an exciting subject in present-day biology,

THE LIST METHOD OF PSYCHOTHERAPY by Elizabeth Shehr, Eleanor Messing, Theodora Hirschhorn, Enis Post, Annette Davis nd Arthur Messing. Philosophical Library, New York, 1960, 255 pp. $7.50.

Reviewed by Carl N. Zimet

The book jacket announces that this collection of papers presents, for the first time, a method of psychotherapy developed by Jacob S. List. The method seems to be almost a side issue, for the central focus of all the six essays is the adulation of List as psychotherapist, teacher, friend and humanitarian extraordinnaire. Indeed a suitable subtitle for this volume might be: "Six personal expressions of unresolved transference," for the authors, as is true of all Listian therapists must originally have been List's patients before they were trained by him in psychotherapy.

The only information available on List himself is that he was a probation officer in New York City for a time, took up graduate work and subsequently "plunged into an intensive study of psychology." Each of the six authors are holders of doctorates in Special Education making it clear that they do not consider themselves psychologists nor do they wish to be identified as such.

The quality of the papers is generally of a very low level, adding nothing to the established literature in the area of psychotherapy, except in the paper "The Reception Room as Therapeutic Community" the reader may learn how to make use of the toilet, the back staircase, the coffee shop and neighborhood stores as an integral part of the psychotherapeutic regimen. The author of that part of the book states under the heading of "The Men's and Women's Rooms:" "When the client finds that his counselor is not ashamed to announce that he must go to the restroom, and invites the patient if he so desires to come along, the latter's attitudes are revealed." A few pages further along the diligent reader is given the opportunity to learn about the wide variety of uses of the reception room closet.

The book can only be recommended to those who are intensely interested in List's views on: therapist selection and training (a list of 34 courses he considers necessary are provided), higher education as therapy (12 tables are printed, listing responses to questionnaires, without information as to the number of patients involved), or warmth in the therapeutic process in which the author states that "List trains his counselors never to be unnatural or stiff." It is likely that the readership will not extend far beyond the intimate circle of List, his patients and/or therapists.

ESSAYS ON THE FIRST HUNDRED YEARS OF ANAESTHESIA by W. Stanley Sykes, M.B.E., M.B., B.Chir. (Cantab.), D.A. The Williams & Wilkins Co., Baltimore, U. S. agents for E. & S. Livingstone, Ltd., Edinburgh, 171 pp., 1960.

Reviewed by Nicholas M. Greene

Medical literature is replete with books that are informative. It is also replete with books that are dull. Few indeed are those medical books which are so interesting because of their subject matter and the style in which they are written that one quite literally can hardly put them down. Dr. Sykes has, however, managed this rare feat. He has presented us with a series of essays based upon a scholarly and complete review of the events and personalities associated with anesthesia in the Nineteenth Century. There is nothing dull in his method of presentation. His remarks on how he came to write such a book illustrate this and, equally important, tell how he came to have the time for such a scholarly approach: "Perhaps I should mention that I have been an anaesthetist myself for twenty-five years. I am a survivor from the stone age or bow and arrow epoch, by which I mean that I have never given a relaxant in my life. I gave up anaesthesia altogether at the end of World War II. During the last four years of my anaesthetic career—that is during the part of it which came into the relaxant era—I worked in German prisoner of war camps, where conditions were sometimes good, but refinements of this sort were absent. And so it came about that I was quite out of date when we returned home after being liberated by Patton's Third Army. So it seemed a good time to retire."

There are eight chapters in the book plus a preface longer than many of the chapters. Each is an essay in itself. Each is interesting. "The Effect of Cantharides on the Hedgehog" is an especially well done and well documented commentary on the dangers of transposing the results of animal experimentation to humans. The chapter on "Stupidities" contains examples (including one at the author's expense) of dogmatic statements by certain authorities on subjects they know little about, and the peculiar phenomenon associated with certain other authorities whereby a medical discovery may not only be accepted but championed at one point in life, whereas a few years later an equally significant discovery may be blindly opposed on purely emotional grounds. The final chapter, "The Scottish Chloroform Legend," does much to explain why chloroform, despite its toxicity, was for many years used so widely in Britain in preference to ether and emphasizes the role of Syme and Simpson in advocating, in the face of available statistics, an anesthetic agent they themselves had little personal experience with and rarely, if ever, actually administered.

This is a book which should appeal to all physicians, but especially to surgeons and anesthesiologists.

Infectious Hepatitis and Immune Globulin

Infectious hepatitis (virus A hepatitis, as distinguished from virus B homologous serum hepatitis) occurs the year round, but it generally reached a peak in the months of January through March. The Communicable Disease Center of the U. S. Public Health Service expects the incidence of the disease to be higher in the winter months of 1960 through 1962 than in previous years, probably reaching epidemic levels in some communities. As this is written, an unusually heavy incidence has been noted on the West Coast and in the Northeast.

The lack of a susceptible laboratory animal and of specific diagnostic serologic tests have handicapped the solution of many problems in prevention, diagnosis and epidemiology of the disease. The virus is present in the blood and the feces; there is conclusive evidence of a fecal-oral route of transmission, but not of a respiratory route. Person-to-person transmission resulting from close contact is considered the most likely mode of spread, but some outbreaks are waterborne, milkborne, or spread by contaminated food. The infection tends to spread rapidly among school children, who then convey it to adults at home.

More cases occur without jaundice than with it, and such cases are often diagnosed as "intestinal flu." The possibility of infectious hepatitis should be considered when suggestive symptoms occur in any patient with known exposure to hepatitis, or in patients with liver tenderness or enlargement. Positive flocculation tests or increased transaminase levels will help confirm the diagnosis.

Anticoagulant Drugs And Surgery

"Anticoagulant drugs are contraindicated . . . before surgery of any kind." This statement, which appeared in a *Medical Letter* appraisal of oral anticoagulant drugs (*1*: 85, Nov. 13, 1959), has been the subject of a great deal of discussion in the intervening months, and the problem has been further reviewed by *Medical Letter* consultants.

The AMA Council on Drugs states that anticoagulant drugs "should not be given to patients about to undergo surgery . . ." (*New and Non-Official Drugs,* 1960, p. 507). "Prescribers' Notes" of the British Ministry of Health, on the other hand, does not consider surgery a contraindication to anticoagulant therapy. Dr. Irving Wright, former president of the American Heart Association, takes a middle position, indicating the need for special caution in the use of anticoagulants only in procedures leaving raw surfaces, procedures with tube drainage, and after operations on the brain and the spinal cord.

Only large-scale controlled studies can resolve these differences. Until such studies have been performed, the following recommendations seem justified:

(1) Prior to *elective surgery,* anticoagulants should be discontinued in most patients who have been on long-term anticoagulant therapy, and resumed 36 to 48 hours after the surgery. In the occasional patient in whom the risk of discontinuing anticoagulants appears to be excessive, oral drugs should be reduced and stopped, and intravenous heparin substituted.

(2) In *emergency surgery* in patients on oral anticoagulant drugs, about 50 mg. of vitamin K_1 (Mephyton—Merck; Konakion—Roche) is given intravenously to restore normal prothrombin activity and heparin is then substituted for the oral drugs. Therapy with heparin is usually more easily and accurately controlled than with oral anticoagulant drugs, and is probably safer. Protamine Sulfate NF or Polybrene (Abbott) should be available at all times to neutralize excessive anticlotting effects of heparin. Following recovery from surgery—at about the time sutures are removed—oral anticoagulant drugs can be restored.

Stopping or lowering the dose of oral anticoagulant drugs before surgery raises the question of possible "rebound" of the blood coagulation factors. Such rebound has often been postulated but never definitively proved.

Reprinted from The Medical Letter on Drugs and Therapeutics, New York, N. Y.

Medical History of War Offered

Many of the medical lessons learned during World War I had to be relearned under fire during World War II because of paucity of distribution of the World War I medical history.

Lieutenant General Leonard D. Heaton, The Army Surgeon General in an endeavor to prevent this costly relearning process, in the unhappy event of another war, has directed the preparation, publication, and distribution of the "History of the Medical Department, United States Army, in World War II." General Heaton is particularly anxious that information of the existence and availability of this History be circulated widely among the profession, both military and civilian.

Of the 48 volumes programmed for the series, 15 have been published and can be purchased at modest cost from The Superintendent of Documents, Government Printing Office, Washington 25, D. C. The set of 15 volumes may be purchased for $66.50 or individual volumes can be obtained at remarkably low prices. Commanding officers of medical units may requisition copies for their Medical Units libraries by submitting DA Form 17 directly to The Historical Unit, U. S. Army Medical Service, Washington 12, D. C., ATTN: Promotion Branch.

Volumes now available are:

"General Surgery"—Edited by Michael E. DeBakey, M.D.

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Obituary

Norman Louis Schmidt, M.D.
1897 - 1960

Dr. Norman Louis Schmidt, Stamford urologist and genito-urinary surgeon, died at the Newington Veterans Hospital on July 20, 1960. He was born on May 25, 1897, in Lynn, Massachusetts, the son of Louis and Harriet Budd Schmidt.

In 1921, he received a bachelor of science degree from Yale University and in 1927, his medical degree from Vanderbilt University. He interned at Knickerbocker Hospital in New York City and at a later date served a residency in urology at Bellevue Hospital. In 1930, he entered the private practice of urology and genito-urinary surgery, in Stamford and in New York City. This practice he interrupted in 1943 to again serve his country for the second time, as he had done in 1918, in the United States Navy. In 1946, he was discharged from the Navy with the rank of full commander. He then resumed his practice at 60 Glenbrook Road.

In the middle of February 1950, Dr. Schmidt developed an epidermoid carcinoma of the left lower gingiva. Treatment for this carcinoma then continued over many years.

Edward G. Deming, M.D., who did so much wonderful plastic surgery on Dr. Schmidt, and whose skill was so recognized and so praised by him writes as follows:

"Doctors are traditionally poor patients and all of us have known some that truly were, but Dr. Schmidt was certainly an outstanding exception. I have known no patient who has shown greater courage and continued cheerfulness in the face of an appalling disease, and appalling surgery, which we all knew would leave him with tremendous deficits, not only in appearance but inability to speak and eat. He faced these things and submitted to them without the slightest hesitation and with obvious complete trust and even encouragement for the surgeon. He was an inspiring patient and several of the procedures that were done on him, to my knowledge, were unique. Dr. Schmidt's enthusiasm for life was infectious. In my office he often laughed almost gleefully because he was alive when he should have died several years before from his disease. It was a real tragedy that his original cancer was apparently cured and that he had to be struck down by what, to all indications, was a new and intractable lesion in the pharynx. Even with his general deterioration from the new lesion, I never saw him lose his faith or courage. If these qualities alone could prolong life Norman Schmidt would never have died, and I for one will remember him as long as I live."

During these ensuing years, because of facial changes and speech defects, Dr. Schmidt could no longer continue in private practice and turned to the field of cancer research. He was a fellow in oncology at Yale University School of Medicine from January 1956 to March 1957; and a research associate in cancer there from May 1, 1957 to August 31, 1958. As a result of this work there was published in *Surgery, Gynecology and Obstetrics,* in 1958, an article entitled, "Survey of Tongue Cancer Over a Fifteen-Year Period in a General Hospital." Co-authors were Dr. Donald B. Shedd of the Department of Surgery, Yale University School of Medicine, and Dr. C. Chang.

Dr. Shedd writes of Dr. Schmidt: "He made a valuable contribution to the knowledge of oral cancer. Seldom has there been an individual whose adjustment was so good to a very major disability affecting appearance, speech, and swallowing. There was real tragedy in seeing a man triumph for seven years over such a major problem and then succumb from what was probably a new cancer further posterior in the oral cavity."

Dr. Alfred Hurwitz, who also attended Dr. Schmidt, gave the following tribute: "He was a student deeply interested in the secrets of medicine and imbued with a high degree of academic curiosity. Above all else, he was a kindly gentleman with a lively spirit and a great sense of indebtedness."

Dr. Schmidt was a member of the American Medical Association, the Fairfield County Medical

Association, the Stamford Medical Society and the Industrial Medical Association. He was a member of the staff of the Stamford Hospital and St. Joseph's Hospital. He was a former clinical assistant in urology at the New York Polyclinic Hospital and Medical School in New York.

Dr. Schmidt is survived by his wife, Dorothy Fain Schmidt of Stamford, who stood bravely and tenderly by his side through the more than twenty major operations he underwent during the course of his treatment. He will be long remembered as a skilled and kindly physician and as a courageous and wonderful human being.

Arthur Koffler, M.D.

In Memoriam

Cook, George F.—Plainville; Tufts College Medical School, 1923; medical director for Plainville during his career in general practice, from 1924 to his retirement in May, 1959; active in church affairs and was a fourth degree member of the Knights of Columbus; was a member of the medical staffs at New Britain General Hospital, New Britain Memorial Hospital, Hartford Hospital, and St. Francis Hospital, in Hartford; from 1925 to 1929 he served as medical examiner U.S. Veterans Bureau, Civil Service; died at his home October 19 following a long illness, aged 64 years.

Harrison, Francis M.—Stamford; Jefferson Medical College, 1922; appointed chief of staff when St. Joseph's Hospital was opened in Stamford in 1942, Dr. Harrison served in that post for 14 years; he was a member of the hospital's board of directors, the advisory board of the Stamford Rehabilitation Center, the board of directors of the Stamford Visiting Nurse Association, the Knights of Columbus and the St. Joseph's Hospital Memorial Fund; died at St. Joseph's Hospital October 18, following a brief illness, at age of 64 years.

Laszlo, Andras E.—Southport; University of Kiel, Germany, 1923; practiced medicine in Southport and adjacent communities for 35 years; was an internist on the staff of Bridgeport Hospital; was well known as a world traveler and an author and held memberships in the New York Zoological Society, the Conservation Foundation, the International Conservation Group; Group of Brussels, and the American Geographical Society; during the past twelve years, Dr. Laszlo went on four African expeditions for ecological observations and anthropological study to aid in medical research; he was a frequent contributor to medical and explorer's publications and in 1958 published a book, "Doctors, Drums and Dances," in which he expounded his philosophy and concern about African problems; in 1958 he was chosen president of the Mid-Fairfield County Youth Museum, now under construction; died October 16 at Concord Hospital, Concord, New Hampshire, following a heart attack while on a hunting trip in that state, aged 62 years.

Reiss, Joseph—Newtown; New York University Medical School, 1914; following more than 30 years of practice in New York, came to Connecticut and established a general practice in Newtown in 1951; was a member of the New York Academy of Medicine and served on the courtesy staffs of Milford Hospital and Bridgeport Hospital; died July 22, at age of 73 years.

Shepherd, William G.—Hazardville; University of Toronto, 1908; practiced in the Hazardville-Thompsonville area for more than 40 years; a native of Canada, Dr. Shepherd served with the Canadian Army in Siberia and received a citation from the Canadian Government for his work during a cholera epidemic in China; served for many years as a staff member of the Johnson Memorial Hospital, Stafford Springs; died at his home November 2 aged 76 years.

Vigue, Charles E.—Hartford; George Washington University Medical School, 1936; Dr. Vigue was senior psychiatrist in charge of male patients at the Institute of Living, Hartford; he began his psychiatric work at Gallinger Hospital, Washington, D. C., and then served a residency at St. Elizabeth's hospital in that city; he later was appointed clinical director at the Providence Retreat, Buffalo, and joined the staff at the Institute of Living in July, 1942; he was recently appointed to the Social Adjustment Commission of the City of Hartford; died suddenly September 12 at his home in Waterville, Maine, at age of 63 years.

Zavadier, Nathan—Newtown; University of Zurich, Switzerland, 1918; received his license to practice in Connecticut in 1943; had given up his practice in the Bridgeport area in past years because of ill health, died October 21, at the Pineview Convalescent Home, Monroe.

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